

MAINE SCHOOL ENVIRONMENTAL GUIDE

The Maine Department of Environmental Protection
Bureau of Remediation and Waste Management
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Augusta, Maine 04333

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Introduction

Most of us don't think of schools as places where there are significant environmental, health and safety issues; a school's primary mission is to teach our children. Yet the quality of a school's environment can significantly impact the health and well being of students and staff. Sound management of environmental concerns can enhance student learning and protect the health of all those who work, study or use the school building.

Environmental issues abound in the school setting, from management of chemicals to lead paint and indoor air quality. The goal of this notebook is to help the school administrator, the facility manager, teachers and staff:

- identify environmental concerns;
- understand the environmental laws and regulations that apply,
- provide resources to help achieve compliance, and
- implement best management practices.

The notebook is organized by subject area. Materials on some subjects, like indoor air quality, have already been developed fully by others and this notebook references those materials. Other subjects, such as managing laboratory chemicals or universal wastes, have not previously been developed specifically for Maine schools and a comprehensive explanation of requirements and best management practices is provided. Sections should be copied and given to the appropriate school staff for reference and/or implementation.

A variety of checklists are included. The checklists cover the major components of applicable state rules. Those boxes shaded in **gray** indicate the responses that would be in compliance with the rule or recommendation.

Neither the manual nor the included checklists take the place of the actual regulations. Please refer to the pertinent law or rules for more in-depth understanding of regulatory requirements.

Please feel free to provide comments, concerns and suggestions for future changes or additions to this notebook. They should be directed to

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Additional Resources

This guide does not cover all environmental issues a school may need to give attention to. As stated in the Introduction, there is very good information already developed on certain subjects. Of particular note are the following:

1. Indoor Air Quality: see 'Tools for Schools" <http://www.epa.gov/iaq/schools/tools4s2.html>
2. EPA environmental software, Healthy School Environments Assessment Tool (Healthy SEAT) <http://www.epa.gov/schools/>
3. Radon: <http://www.epa.gov/radon/> and <http://www.epa.gov/iaq/radon/pubs/schoolrn.html>
4. Facilities Maintenance and Capital Management Program: Me Department of Education <http://www.maine.gov/education/const/fmt.htm>

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In the Art Room

I. Why we are concerned about chemical management in school art programs: Art programs usually include several different types of activities, each with distinct environmental and health concerns. The hazards of these activities and their associated materials are summarized below.

Paints, Varnishes and Lacquers: Most paints used in art programs are water-based, acrylics or aerosols. Some water-based paints have heavy metals such as lead chromate, which may result in unwanted paint becoming hazardous waste. Acrylics and aerosols can degrade air quality if ventilation is not optimal. Aerosol cans of paint frequently contain hazardous materials, and if not empty, may need to be disposed of as hazardous waste. Most secondary schools do not use oil paints, but it is necessary to note that 'flake white', which contains lead, is an oil color often used in preparing a canvas. Since there isn't a viable substitute, flake white is exempted from the ban on lead in paint. Lastly, varnishes, lacquers, and paint thinners, like acrylics and aerosols, can negatively effect air quality and often contain hazardous constituents, especially if petroleum based. Oil paints and aerosols may be a fire risk and waste materials, including cleaning solvent, must be managed as hazardous waste.

Ceramics: A ceramic program can pose two distinct hazards. Mixing dry clays and glazes can create significant respiratory hazards. Clays often contain free silica, which is physically similar to asbestos and may become airborne during mixing. Some clays and glazes contain heavy metals for color and mixing can expose students and staff to a variety of potential carcinogens and teratogens. The second hazard is the use of the kiln itself. Proper ventilation of the kiln is critical to indoor air quality. Improper ventilation can result in harmful concentrations of ozone, carbon monoxide, volatile organic compounds, and metallic vapors.

Photography: Often photo labs are placed in large closet like areas because light infiltration is undesirable during film developing. If there isn't any separate ventilation system that is directly vented to the outside, the chemical use may result in poor air quality and exposure concerns. In addition, the chemicals used in photo darkrooms (developer solution, stop bath and fixer solution) usually require hazardous waste management due to silver contamination, pH or flammability.

Graphic arts: This category covers a wide array of activities, from computer graphics to hand print-making. Poor air quality and the generation of hazardous waste are again the issues of concern. If there is inadequate air exchange, the heat given off computer equipment can raise the temperature and lower the room's humidity, thereby promoting the generation of ozone. Ozone can be a serious respiratory irritant. Inks and toners may have volatile organic compounds (VOCs). If used in a computer, there may not be anything a school can do to lower VOCs, but if used in non-computerized print-making, schools can select inks with low VOC content. Inks with high VOCs not only impact air quality, but usually need to be handled as hazardous waste if no longer wanted. In addition, chemicals used to clean up rollers and other equipment used in graphics may be petroleum based and have a low flash point, thereby resulting in hazardous waste and presenting a fire risk.

II. State laws and rules that affect school art programs

Four state agencies administer laws and rules that affect how schools should manage their hazardous chemicals in their art program;

- The Department of Health and Human Services (DHHS) regulates subsurface wastewater disposal (statutory authority 22 M.R.S.A. Section 42, rules 10 CMR 241, c.2, Sections 203 – 204). If a school is on a septic system, the rules prohibit the disposal of chemicals, other than normal household type cleaners, into the septic system.
- The Maine Department of Labor (DOL), Bureau of Labor Standards administers the *Occupational Safety and Health Act* (OSHA) of 1970 for public sector employees such as teachers (effective April 28, 1971. Public law 91-596, found in 29 CFR 1910.). School art programs that use hazardous materials must comply with the OSHA's *Hazard Communication* standard (29 CFR 1910.1200.) which requires employers to provide employees with information and training they need to protect themselves from chemical hazards in the workplace.
- The Maine Department of Education (DOE) was required by statute to establish rules governing the purchase and storage of hazardous chemicals, including those used in school art programs (20-A M.R.S.A. Section 15614.14). The department adopted Chapter 161 rules in 1990 to fulfill the statutory mandate. A compliance checklist is included in this section and the rules are included in the section 'Chemical Management in School Science Laboratories' on page 49.
- The Maine Department of Environmental Protection (DEP) regulates hazardous waste management and disposal (statutory authority 38 M.R.S.A. Section 1301 et. seq., Hazardous Waste Management Rules Ch.850 - 857). School art programs can generate both hazardous and non-hazardous waste. Pertinent hazardous waste rules are summarized in this section. For more detail, see "Hazardous Waste Management" starting on page 87.

III Actions needed to be in compliance with the laws and rules.

DHHS Subsurface Waste Disposal Rules: If a school is on a subsurface wastewater disposal system, i.e. a septic tank, then the following rule applies:

Ch. 2 §204.1 Discharging prohibited: The use of system cleaners that contain restricted chemical materials is deemed a discharge of industrial wastes and is prohibited. See Section 910.0.

§204.2 Chemicals: Chemicals, other than normal household cleaners, shall not be disposed of in the disposal field. Examples of prohibited chemicals include paint, paint thinner, commercial grease and oil, darkroom chemicals etc.”

The following checklists should help a school to properly assess their art materials and manage their wastes.

DOL Hazard Communication Standard §1910.1200 *Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.*

Requirement	Action	Yes	No
1. Hazard determination: The standard requires the school to identify all hazardous materials identified in §1910.1200(d)	Has the school described in writing the procedure(s) used to identify a hazardous chemical?		
	Is the written chemical evaluation procedure available to employees?		
	Has the school identified all hazardous materials?		
2. Written hazard communication program: The school must develop a written hazard communication program.	Has the school developed a written hazard communication program that includes criteria for inventorying, labeling, maintaining the MSDS, and employee information and training?		
3. Hazardous materials inventory: The school must develop and maintain a hazardous materials inventory.	Does the school have a hazardous materials inventory?		
	Is the inventory current?		
	Is the inventory available to all employees?		
	Does the inventory utilize the same chemical name as appears on the MSDS?		
4. Chemical labeling: All hazardous chemicals must be properly labeled.	Do all hazardous chemicals have legible labels?		
	Do the labels identify the hazardous materials?		
	Do the labels have appropriate hazard warnings?		
	Do the labels identify the name and address of the manufacturer or supplier?		
5. Material Safety Data Sheets (MSDS): The school must maintain the MSDS for all hazardous materials they use.	Does the school maintain a current and complete set of MSDS?		
	Are the MSDS readily available to employees?		
6. Training and Information: The school must provide employees with information and training on hazardous materials they may be exposed to.	Is there a hazard communication training program for employees newly hired, with new job responsibilities, or working with a hazardous material recently introduced ?		
	Are employees aware and trained on the hazard communication program?		
	Is the written hazard communication program readily available to employees?		
	Does the hazard communication training program include: <ul style="list-style-type: none"> • An explanation of the standard; • Identification of hazardous materials, their potential health effects and their location; • The location of the MSDS and hazardous communication plan; • Procedures to detect and measure workplace contaminants; • Safe work practices and PPE equipment; • An explanation of the labeling system? 		

DOE Chemical Requirements (Chapter 161) Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.

Requirement	Action	Yes	No
1. Screening process: A school must have a written screening process for hazardous chemical purchases.	Has the school developed a written process for requests to purchase hazardous chemicals?		
	Does the purchase request form denote the chemical name, amount needed per year, storage requirements, proposed uses, disposal requirements, and existing stocks?		
2. Purchase amount: A school may not purchase more than a two-year supply. If shelf life < 2 year, must be used within shelf life.	Are amounts of hazardous chemicals limited to what will be consumed within a two-year period or less if shelf life is less than 2 years?		
3. Annual inventory: A school must have an annual inventory of all hazardous chemicals.	Does the school conduct an annual inventory of all hazardous chemicals?		
	Is the inventory readily available outside the storage area? Filed with the local fire department? <i>(recommended)</i>		
4. Disposal: Hazardous chemicals must be disposed of according to DEP Hazardous Waste Rules, Ch.850 et.seq.	Have all hazardous chemicals older than 2 years or beyond their shelf life been properly disposed of as hazardous waste?		
	Do staff know how to identify and manage hazardous wastes?		
5. Chemical Storage: A school must properly store its hazardous chemicals.	Are hazardous chemicals stored according to acceptable compatibility classification?		
	Are hazardous chemicals labeled with their name, safety rating and purchase date?		
	Is shelving appropriate for the chemical?		
	Do shelves have safety lips?		
	Are all shelves labeled re. classification of chemicals?		
	Is the storage area locked when not in use?		
	Is there a plumbed eye wash station w/in 50 feet of the storage area? <i>(recommended)</i>		
	Is there a deluge shower readily available? <i>(recommended)</i>		
	Is there an ABC fire extinguisher ≥ 10 lbs. within 50 feet?		
	Is there appropriate spill control material?		
	Is the storage area separately vented? <i>(recommended)</i>		
	Are there at least 4 air exchanges per hour in the storage area? <i>(recommended)</i>		
	Is the storage area vented to the outside and away from air intakes? <i>(recommended)</i>		
	Is the storage area ventilation run continuously when school is in session or in use?		

DEP Hazardous Waste Requirements (Chapters 850 et. seq.)

This document assumes that Maine primary and secondary schools can be managed as Small Quantity Generators (SQG), as defined in requirement #1 below. If you think your school may generate hazardous waste in quantities that would elevate its generator status to Small Quantity Generator Plus or Large Quantity Generator, you should contact the DEP for assistance and see the Hazardous Waste Management section which begins on page 87.

Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.

Requirement (for SQG)	Action	Yes	No
1. Generator status: A school must determine its generator status, based on the hazardous waste generation of the entire campus.	Has the school determined its generator status? (SQGs generate <220 pounds or about 27 gallons per month and do not accumulate >55 gallons on site at one time. If you generate acute hazardous waste the limit is < 1 kilogram per month.)		
2. Storage of waste: A school must store its hazardous waste consistent with DEP rules.	Are hazardous wastes stored in containers of 55 gallon size or less?		
	Is the container labeled "Hazardous Waste" and are the contents clearly identified?		
	Does the container have an accumulation start date? (when the first drop went in)		
	Does the container have the date when it became full?		
	Has any container been full for more than 180 days?		
	Are all waste containers in good condition?		
	Are wastes stored in compatible containers?		
	Are all hazardous waste containers on a firm working surface? <i>(recommended)</i>		
	Are all waste containers closed when not in use? <i>(recommended)</i>		
	Do all containers have secondary containment? <i>(recommended)</i>		
3. Waste shipment: A school must ship its hazardous waste consistent with DEP rules.	Does the school have manifest records for all hazardous waste shipments of the last 3 years? <i>(longer recommended)</i>		
	Has the school used a Maine licensed hazardous waste transporter?		
	Has the hazardous waste gone to a licensed hazardous waste facility?		
4. Waste treatment and disposal: A school may not treat or dispose of hazardous waste unless licensed to do so.	Is evaporation or other forms of treatment (other than neutralization of <500ml of acid/base that is hazardous due to corrosivity only) done prior to disposal?		
	Does the school have a silver recovery unit for its photography program?		
	If there is a silver recovery unit, has the school received a treatment license from DEP?		
5. Accidents and spills: A school must report all hazardous matter and hazardous waste discharges to the DEP. Call 800-452-4664 to report a spill.	Does the school have a hazardous spill plan as part of its Chemical Hygiene Plan or Hazardous Communication Plan? (see DOL section) <i>DEP requires a call, but not a plan.</i>		

IV. Best management practices and recommendations

The checklists not only indicate the requirements, they also provide guidance on best management practices. Some best management practices are not brought out in the checklists so they are provided below.

General recommendations

- It is recommended that art rooms have an independent ventilation system, vented directly to the outside. There should be no recirculation to other parts of the building; therefore vents should not be near air intakes. Air exchanges should be a minimum of 15 cubic feet/minute/person, (ASHRAE Standard 62-1989 entitled "Ventilation for Acceptable Indoor Air Quality" prepared by the American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc.). If the air exchange rate is less than optimal, painting, especially with aerosols, should be done outside if possible.

Paints, varnishes, lacquers, and paint thinners

- These materials can be flammable. They should be labeled as such by the manufacturer. If so, they should be stored in a locked cabinet designed for flammable materials (usually a metal cabinet sold specifically for this purpose).
- The flammable cabinet should be directly vented to the outside if possible. If not directly vented, then the vent holes should remain plugged.
- When selecting paint products make sure they comply with ASTM D4236, an art safety standard adopted by the federal Consumer Product Safety Council. It should be written right on the product. Also look for the *Art & Creative Materials Institute, Inc. (ACMI)* rating as well. (See page 14).
- Make sure that primary color paints, especially red and yellow, do not contain any heavy metals such as chromium. Again, the ACMI rating will help, as will an MSDS.
- Brushes with water based paints are ok to rinse under the tap, but never put petroleum based materials down the drain.

Ceramics

- The storage, handling and mixing of powdered clays can result in the release of free silica, a serious respiratory irritant similar to asbestos. Because the silica particles are so small, they become entrained in the air and will contaminate both the art room and nearby areas. Art programs should use pre-mixed wetted clays to reduce the problems associated with free silica. Sanding dry ceramics will still result in airborne free silica, so a diligent cleaning program is warranted. Cleaning up the dust left behind from sanding ceramic pieces should only be done by damp mopping/wiping or with a HEPA vacuum. A regular vacuum used in the art room and elsewhere can spread free silica around the building because it will not retain the small silica particles.
- Use of powdered metals such as chromium, cobalt, titanium and nickel for color should be avoided. Lead-free glazes are available and should always be used. Glazes and engobes should be pre-mixed and have limited heavy metal content.
- Kilns need independent active ventilation that exhausts above the roof line if possible. Otherwise they should be vented through an outside wall. Care should be taken to make sure the exhaust is not near an air intake.

Photography

- Waste fixer is usually hazardous due to silver content. Silver recovery units require routine maintenance and periodic testing, as well as a Hazardous Waste Treatment license from DEP, and are not usually recommended for schools. If your school has a silver recovery unit that is not licensed, you should contact the DEP for more information at (207)287-2651.
- Dark rooms should have independent ventilation that directly vents to the outside. Kodak recommends that the dark room should have a minimum of 10 air exchanges per hour to avoid chemical exposure concerns.
- Some dark room chemicals are flammable and should be stored in a lockable metal cabinet designed for that purpose. Check the flash point on the Material Data Safety sheet (MSDS). If it is lower than 140°F (CC), it is considered hazardous. See discussion above about paints etc. in this section.
- If the school is on public sewer, it should have a pretreatment agreement with the local sewage treatment plant that includes the notice that rinse water from the darkroom is going to the treatment plant. (Fixer must be collected as hazardous waste. As noted, other chemicals may be hazardous; check the Material Data Safety sheet or test.)

Graphic Arts

- Use water based inks whenever possible. If water based inks don't fit the graphic activity, soy based inks should be chosen over petroleum based inks. Soy inks typically have lower volatile organic compound content than petroleum inks and are preferable. Check the MSDS sheet under 'Flash Point' and if the flash point is less than 140°F (CC), the waste must be handled as hazardous waste.
- There are too many different types of products utilized in the world of graphics to provide adequate discussion in this document. The best way of minimizing health and environmental concerns is to look for the ACMI seal (see next page) and to become comfortable with reading the MSDS information to avoid those products with hazardous or volatile constituents.
- Like every other activity under the arts program, good ventilation is important when doing graphic arts. If doing computer graphics, temperature, air exchange and make-up, and humidity are especially important. Talk with the school administration and facilities manager to make sure that the heating, ventilation and air conditioning (HVAC) system is tested and maintained routinely to assure optimal performance.

V. Resources

The best way to reduce the regulatory burden associated with managing hazardous art materials is to avoid their use whenever possible. Use of non-toxic or less toxic materials has a multitude of environmental and health benefits. Fortunately for art teachers there is the *Art & Creative Materials Institute, Inc. (ACMI)*, a non-profit association of manufacturers of art, craft and other creative materials that has sponsored a certification program for art products. All products are evaluated for their safety, and must meet voluntary standards of quality and performance. ACMI has a consulting toxicology team who reviews the complete formulas of products in the certification program. In this evaluation, the team takes into account:

- Each ingredient and its quantity
- Possible adverse interaction with other ingredients
- The product's size and packaging
- Potential acute and chronic harm to any part of the human body

- Possible allergic reaction
- How a product is commonly used and misused
- U. S. national and state labeling regulations.

ACMI must approve the formula of every color of every product and must approve every formula change. They insure that products are appropriately labeled as non-toxic or have health warning labels affixed if warranted. ACMI's certification program has received the endorsement of experts in the field of toxicology. Today ACMI has over 220 members and has certified over 60,000 art, craft and other creative materials.

To access ACMI lists of certified products go to their web site: <http://www.acminet.org/index.htm>

Look for the following product seals.¹



The new AP (Approved Product) Seal, with or without Performance Certification, identifies art materials that are safe and that are certified in a toxicological evaluation by a medical expert to contain no materials in sufficient quantities to be toxic or injurious to humans, including children, or to cause acute or chronic health problems. This seal is currently replacing the previous non-toxic seals: CP (Certified Product), AP (Approved Product), and HL Health Label (Non-Toxic) over a 10-year phase-in period. Such products are certified by ACMI to be labeled in accordance with the chronic hazard labeling standard, ASTM D 4236, and the U. S. Labeling of Hazardous Art Materials Act (LHAMA). Additionally, products bearing the AP Seal with Performance Certification or the CP Seal are certified to meet specific requirements of material, workmanship, working qualities, and color developed by ACMI and others through recognized standards organizations, such as the American National Standards Institute (ANSI) and the American Society for Testing and Materials (ASTM). Some products cannot attain this performance certification because no quality standard currently exists for certain types of products.



The CL Seal identifies products that are certified to be properly labeled in a program of toxicological evaluation by a medical expert for any known health risks and with information on the safe and proper use of these materials. This seal is currently replacing the HL Health Label (Cautions Required) Seal over a 5-year phase-in period. These two Seals appear on only 15% of the adult art materials in ACMI's certification program and on none of the children's materials. These products are also certified by ACMI to be labeled in accordance with the chronic hazard labeling standard, ASTM D 4236, and the U. S. Labeling of Hazardous Art Materials Act (LHAMA).

¹From the web page of The Art & Creative Materials Institute, Inc. (ACMI), an international association recognized as the leading authority on art and craft materials.

ASBESTOS

I. Why we are concerned about asbestos in schools: Asbestos is a naturally occurring mineral, very strong and heat resistant, which has been made into nearly three thousand products ranging from pipe insulation to cement wallboard. The most common asbestos-containing materials (ACM) in schools are flooring and ceiling tile, and insulation on pipes and boilers (“thermal system insulation” a.k.a. “TSI”)

Asbestos is a hazard when microscopic fibers are released to the air and breathed in by workers and other school building occupants. It causes lung cancer, mesothelioma, and asbestosis, and needs to be treated with respect and handled by professionals under controlled conditions. Asbestos fibers can be released into the air from ACM that is in poor condition and by renovation and repair work. Maintenance work, such as refinishing of floors, can also release asbestos fibers into the air if it is performed using methods such as high-speed stripping of old floor finish.

II. State and federal laws and rules that affect schools with asbestos

- Maine Department of Environmental Protection: Maine law regulates any activity that impacts more than 3 square feet or three linear feet of ACM, (38 MRSA, §§ 1271-1284). The law requires the Maine Department of Environmental Protection (DEP) to “ensure that those engaged in the management and abatement of friable asbestos-containing materials are properly trained, supervised and directed to protect the public health.” DEP’s “Asbestos Management Regulations” (Chapter 425 of the DEP’s rules) sets the training, licensing and work practice standards that must be met by people working on inspection, testing, and repair or removal of ACM. The federal government has rules, commonly referred to as NESHAPs for asbestos, that parallel the DEP rules (40 CFR 61.145-155.) Any work that impacts ACM conducted in conformance with Chapter 425 will also meet the standards of the federal NESHAPs asbestos rule.

DEP also administers the federal “Asbestos in Schools” regulation, adopted in accordance with the Asbestos Hazard Emergency Response Act of 1986 (AHERA). The AHERA rules require the removal or repair of deteriorated asbestos-containing materials (ACM) in schools, so it is most important to maintain ACM in good condition. ACM in good condition does not pose a hazard unless it is sanded, ground, cut or abraded to the extent that it releases asbestos fibers.

As part of the AHERA rules, schools must develop a Management Plan for their ACM. The DEP conducts periodic AHERA compliance inspections in Maine’s non-profit school systems. The purpose of the DEP’s program is to provide compliance assistance to schools and to monitor their compliance with AHERA requirements.

- The Department of Labor is responsible for ensuring that public sector employers, including schools, comply with state worker safety laws. There are specific regulations that apply to workers, such as maintenance personnel, whose jobs may expose them to asbestos.

III. Actions needed to be in compliance with the laws and rules *Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.*

Requirement	Action	Yes	No
AHERA Plan: The school must hire a licensed asbestos management planner to develop an AHERA Plan.	Does the school have an AHERA Plan?		
	Was the Plan developed by a licensed asbestos management planner?		
Designated Person: The school must designate and train an individual to ensure that AHERA requirements are implemented.	Has the school named a Designated Person?		
	Has the Designated Person received AHERA training?		
	Is the training documented?		
	Has the Designated Person certified that the school has met its general AHERA responsibilities?		
	Is this certification included in the Management Plan?		
Inspections: The school must ensure that an accredited person conducts an initial inspection and re-inspections in each school building;	Has the school hired a licensed asbestos inspector or management planner to do an initial inspection of all school buildings?		
	Does a licensed inspector do a re-inspection every three years?		
	Are all inspections documented in the Plan?		
Periodic Surveillance: The school must conduct periodic surveillance at least once every 6 months. (Surveillance may be done by trained maintenance staff.)	Does the school conduct surveillance of asbestos materials every six months to note if there have been changes?		
	Is there a copy of all written surveillance forms in the Plan records?		
Written Notification: The school must notify parents and employees annually regarding the availability of the Plan.	Does the school annually notify parents and employees about the availability of the Plan?		
	Is the notice dated and a copy placed in the Plan?		
	Are the steps needed to complete the annual notification to parents and staff included in the Plan?		
Worker Training and Notification: Schools must conduct asbestos training for all maintenance and custodial staff, and notify short-term workers.	Have all maintenance/custodial staff who work in an asbestos containing building received 2 hour asbestos awareness training?		
	Have the staff who conduct activities that may disturb asbestos received 16 hours of training?		
	Have all custodial/maintenance staff received training within 60 days of employment?		
	Are short-term workers who may encounter asbestos been made aware of its location?		
	Are all trainings documented in the Plan?		
Record-keeping: Schools with asbestos must maintain certain records.	In addition to records noted above, does the school maintain written and dated records of response actions and maintenance activities?		

IV. Resources

- Maine Department of Environmental Protection provides on-site compliance assistance with state and federal asbestos laws during its routine AHERA inspections and upon request. The MEDEP also has a web page with asbestos information that is of specific interest to schools; go to www.maine.gov/dep/rwm/asbestos/asbestosinschools.htm to view this information.

If you have any questions on AHERA requirements for schools or hiring of licensed professionals to conduct initial and/or 3-year AHERA re-inspections, please contact

Maine DEP Lead and Asbestos Hazard Prevention Program

PHONE: (207) 287-2651

FAX: (207) 287-7826

www.maine.gov/dep/rwm/asbestos/index.htm

- The Department of Education administers the Revolving Renovation Loan Fund program which can assist schools with asbestos renovation projects. Go to www.state.me.us/education/const/RRFhomepage.htm for more information on this loan program.

Maine Department of Education

(207) 287-5800

(207) 287-2550

www.state.me.us/education/homepage.htm

- The Maine Bureau of General Services provides technical assistance on asbestos in public buildings and helps schools with Revolving Renovation Loan Fund applications to Department of Education.

Maine Bureau of General Services

PHONE: (207) 624-7360

FAX: (207) 287-4039

- Maine Bureau of Labor Standards is responsible for ensuring compliance with worker safety laws in schools.

Maine Bureau of Labor Standards

www.state.me.us/labor/bls/blsmain.htm

PHONE: (207) 624-6400

FAX: (207) 624-6449

TTY: 1-800-794-1110

Additional information can be found at the web site of US EPA Region 1 Boston, Mass.

www.epa.gov/asbestos/ashome.html

Chemical Management In School Science Laboratories

I. Why we are concerned about chemical management in school labs: School labs are unique places because they usually contain a wide range of hazardous chemicals that would not normally be stored together in any other setting. The chemicals could be corrosive, toxic, reactive or explosive under certain circumstances and therefore must be managed with great care. Improper management can pose a very real health and safety risk for both staff and students.

Through work with schools, the DEP has identified several reasons why there is urgency in partnering with science teachers and school administrators to improve chemical management. Many very old high-risk chemicals sit on science room shelves. The level of knowledge concerning proper storage techniques and other safety requirements varies from school to school, but it is fair to say that safe handling practices and proper disposal methods were not part of the training many science teachers received as part of their college curriculum. In addition, many newer teachers have 'inherited' old stockpiles of chemicals that are no longer useful as part of the curriculum. Proper disposal is expensive and has not typically been part of the school budget.

II. State laws and rules that affect school laboratories

Three state agencies administer laws and rules that affect how schools should manage their hazardous chemicals in their laboratories;

- The Maine Department of Labor (DOL), Bureau of Labor Standards administers the *Occupational Safety and Health Act* (OSHA) of 1970 for public sector employees such as teachers,(effective April 28,1971. Public law 91-596, found in 29 CFR 1910). School laboratories must comply with the OSHA *Occupational Exposures to Hazardous Chemicals in Laboratories* standard (January 1990, 29 CFR 1910.1450.) which requires employers to maintain employee exposures to hazardous materials at or below acceptable safe levels established by OSHA or another recognized authority.
- The Maine Department of Education (DOE) was required by statute to establish rules governing the purchase and storage of hazardous chemicals, including those used in school labs (20-A MRSA Section 15614.14). The department adopted Chapter 161 rules in 1990 to fulfill the statutory mandate. The rules are included in this section. (See page 49.)
- The Maine Department of Environmental Protection (DEP) regulates hazardous waste management and disposal (statutory authority 38 M.R.S.A. Section 1301 et.seq., Hazardous Waste Management Rules Ch.850 - 857). School labs generate both hazardous and non-hazardous waste. Hazardous waste rules that may pertain to school labs are summarized in this section.

III. Actions needed to be in compliance with the laws and rules *Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.*

DOL Laboratory Standard

Requirement	Action	Yes	No
1. Monitoring requirements: The employer must conduct exposure monitoring and notify the employee of results within 15 days if there is reason to believe that exposure levels to a substance have been routinely exceeded. (1910.1450(d)).	Is monitoring needed due to perceived over-exposure?		
	If so, has the exposure been documented?		
	Have employee(s) been notified of monitoring results w/in 15 days?		
	Has the employer acted to reduce excessive levels of exposure?		
	Has the employer re-monitored to assure the problem is corrected?		
2. Chemical Hygiene Plan (CHP): The employer must develop and carry out a Chemical Hygiene Plan (CHP). 1910.1450(e) and (Appendix A).	Has a Chemical Hygiene Plan been developed and implemented?		
	Is the CHP available to employees?		
	Does the CHP have provisions for 1. Standard operating procedures 2. Assignment of responsible persons 3. Basic rules and procedures 4. Chemical procurement policy 5. Use of control measures ■ Engineering Controls ■ PPE and equipment ■ Air Monitoring ■ Housekeeping ■ Handling & Storage 6. Medical Program for exposures 7. Record keeping procedures 8. Use of signs & labels 9 Spills and Accidents plan/forms 10. Waste Disposal 11. Training and Information 12. Annual evaluation		
3. Employee Training and Information: The employer must provide the required safety training and materials. (1910.1450(f)).	Has the employer provided the required safety training?		
	Has the employer provided a list of the chemical established exposure limits?		
	Are employees familiar with the CHP?		
	Are MSDSs readily available and current?		
	Is the OSHA lab standard available?		
4. Medical Consultations: The employer must make provisions for medical consultations if an overexposure is suspected or has occurred. (1910.1450(g)).	Has the employer provided for a free medical consultation if an overexposure is suspected?		
5. Hazard Identification: Employers must ensure that all containers of hazardous materials are properly labeled and MSDS's are present. (1910.1450(h)).	Do all hazardous materials containers have readable labels denoting contents, hazard ratings and purchase date? (See above re. MSDSs).		

Other DOL Requirements

Requirement	Action	Yes	No
1.Portable Fire Extinguishers: See 29 CFR 1910.157	Are extinguishers located so that they are readily accessible? (usually at or below bench level.)		
	Is there signage above in clear view?		
	Are extinguishers fully charged and operational?		
	Are those within cabinets clearly visible, appropriately identified and readily accessible?		
Training and Education	If employees are expected to use extinguishers, has appropriate training been provided?		
	Is training given at the time of initial assignment and annually thereafter?		
Selection and Distribution	Is there at least one extinguisher in each lab and for each 2500 square feet? (<i>recommended</i>)		
	Are lab extinguishers “ABC” types and ≥ 10 lbs?		
	Are extinguishers located within 50 feet of lab activities?		
	Are extinguishers inspected monthly?		
Inspection, Maintenance and Testing	Are extinguishers inspected annually?		
	Do extinguishers have an inspection tag or label attached with inspection records recorded?		
	Are annual maintenance records kept for at least a year?		
	Are dry chemical extinguishers requiring a 12-year hydrostatic test emptied and maintained every 6 years?		
	Are exits unlocked from the inside, free and unobstructed, both inside and outside?		
Exits: See 29 CFR 1910.36 and 37	Do all exits have exit signs above?		
	Are all emergency lights operational?		
	Are emergency eye wash and shower stations available where corrosive materials are used?		
	Does the shower deliver at least 20 gallons per minute? (<i>ANSI recommendation</i>)		
Eye Wash/ Emergency Showers: See 29 CFR 1910.151 and ANSI Z358.1	Can shower and eye wash volume be sustained for at least 15 minutes? (<i>ANSI recommendation</i>).		
	Is the water tepid? (<i>ANSI recommendation</i>)		
	Are showers/eye washes flushed/tested per manufacturer’s recommendations?		
	Are inspection records kept? (<i>recommended</i>)		
	Have hazard assessments based on lab activities and chemicals been conducted?		
Personal Protective Equipment: (PPE) See 29 CFR 1910.132	Have the hazard assessments been documented?		
	Have employees been provided with appropriate PPE according to the assessment?		
	Has training concerning proper use, care and the limitations of PPE been provided to employees?		
	Do affected employees demonstrate competence in the selection and use of PPE?		
	Is there a written certification of training for each affected employee on record?		

DOE Chemical Requirements (Chapter 161) *Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.*

Requirement	Action	Yes	No
1. Screening process: A school must have a written screening process for hazardous chemical purchases.	Has the school developed a written process for requests to purchase hazardous chemicals?		
	Does the purchase request form denote the chemical name, amount needed per year, storage requirements, proposed uses, disposal requirements, and existing stocks?		
2. Purchase amount: A school may not purchase more than a two-year supply. If shelf life < 2 year, must be used within shelf life.	Are amounts of hazardous chemicals limited to what will be consumed within a two-year period or less if shelf life is less than 2 years?		
3. Annual inventory: A school must have an annual inventory of all hazardous chemicals.	Does the school conduct an annual inventory of all hazardous chemicals?		
	Is the inventory readily available outside the storage area? Filed with the local fire department? <i>(recommended)</i>		
4. Disposal: Hazardous chemicals must be disposed of according to DEP Hazardous Waste Rules, Ch.850 et.seq.	Have all hazardous chemicals older than 2 years or beyond their shelf life been properly disposed of as hazardous waste?		
	Do staff know how to identify and manage hazardous wastes?		
5. Chemical Storage: A school must properly store its hazardous chemicals.	Are hazardous chemicals stored according to acceptable compatibility classification?		
	Are hazardous chemicals labeled with their name, safety rating and purchase date?		
	Is shelving appropriate for the chemical?		
	Do shelves have safety lips?		
	Are all shelves labeled re. classification of chemicals?		
	Is the storage area locked when not in use?		
	Is there a plumbed eye wash station w/in 25 feet of the storage area? <i>(recommended)</i>		
	Is there a deluge shower readily available? <i>(recommended)</i>		
	Is there an ABC fire extinguisher ≥ 10 lbs. within 50 feet?		
	Is there appropriate spill control material?		
	Is the storage area separately vented? <i>(recommended)</i>		
	Are there at least 4 air exchanges per hour in the storage area? <i>(recommended)</i>		
	Is the storage area vented to the outside and away from air intakes? <i>(recommended)</i>		
	Is the storage area ventilation run continuously when school is in session or in use?		

DEP Hazardous Waste Requirements (Chapters 850 et. seq.)

Note: Many science teachers have used the **Flinn disposal methods**. Most of these methods are **illegal** in Maine and other states.

This document assumes that Maine primary and secondary schools can be managed as Small Quantity Generators (SQG), as defined in Requirement #1 below. If you think your school may generate hazardous waste in quantities that would elevate its generator status to SQG Plus or Large Quantity Generator, you should contact the DEP for assistance, and see the Hazardous Waste Management section beginning on page 87.

Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.

Requirement (for SQG)	Action	Yes	No
1. Generator status: A school must determine its generator status, based on the hazardous waste generation of the entire campus.	Has the school determined its generator status? (SQGs generate <220 lbs. or about 27 gallons per month and do not accumulate >55 gallons on site at one time. If you generate acutely hazardous waste the limit is <1 kilogram per month.)		
2. Storage of waste: A school must store its hazardous waste consistent with DEP rules.	Are hazardous wastes stored in containers of 55 gallon size or less?		
	Is the container labeled "Hazardous Waste" and are the contents identified?		
	Does the container have an accumulation start date? (when the first drop went in)		
	Does the container have the date when it became full?		
	Has any container been full for more than 180 days?		
	Are all waste containers in good condition?		
	Are wastes stored in compatible containers?		
	Are all hazardous waste containers on a firm working surface? (<i>recommended</i>)		
	Are all waste containers closed when not in use? (<i>recommended</i>)		
	Do all containers have secondary containment? (<i>recommended</i>)		
3. Waste shipment: A school must ship its hazardous waste consistent with DEP rules.	Does the school have manifest records for all hazardous waste shipments of the last 3 years? (<i>longer recommended</i>)		
	Has the school used a Maine licensed hazardous waste transporter?		
	Has the hazardous waste gone to a licensed hazardous waste facility?		
4. Waste treatment and disposal: A school may not treat or dispose of hazardous waste unless licensed to do so.	Is there evaporation or other forms of treatment (other than neutralization of <500ml of acid/base that is hazardous due to corrosivity only) done prior to disposal?		
5. Accidents and spills: A school must report <u>all</u> hazardous matter and hazardous waste discharges to the DEP. 1-800-452-4664 to report a spill.	Does the school have a hazardous spill plan as part of its Chemical Hygiene Plan or Hazardous Communication Plan? (see DOL section) <i>DEP requires a call, but not a plan.</i>		

IV. Best management practices and recommendations

The checklists not only indicate the requirements, they also provide guidance on best management practices. Some best management practices are not brought out in the checklists so they are provided below.

The chemical storeroom

- It is recommended that the chemical storeroom have an independent ventilation system, vented directly to the outside. There should be no re-circulation to other parts of the building; therefore vents should not be near air intakes. Air exchanges should be a minimum of 15 cubic feet/minute/person in the classroom and 20 cubic feet/minute/person in the laboratory, (ASHRAE Standard 62-1989 entitled "Ventilation for Acceptable Indoor Air Quality" prepared by the American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc.). The store room ventilation system should have an on/off switch on the outside of the room. Ventilation should be run continuously during the entire school day and whenever the staff, students or others are in nearby areas.
- Always store chemicals according to hazard class based on chemical compatibility, **never alphabetically without regard to hazard class.**
- No hazardous chemicals should be stored above eye level.
- All shelves should have lips.
- Large gas cylinders should be secured, usually to the wall.
- Chemicals should not be stored more than three deep for ease of inspection.
- Post your inventory on the outside of the storeroom. Give copies to the main office and the local fire department.
- **Never work alone in the chemical storeroom without letting someone else know that's where you are.**

Fume hoods

- Airflow should be tested at least once a year. Optimum flow is between 80 and 120 linear feet per minute. The Department of Labor, Safety Works program will conduct free fume hood tests upon request or you can buy a hand held face velocity tester for about \$45 through science supply catalogs.
- Mark the optimum sash height and the test date on the hood.
- If the fume hood is located near a door, close the door when the hood is in use. Air turbulence from an open door can affect performance.
- Never store chemicals inside the fume hood.
- Older fume hoods may have asbestos side walls. If so, check its condition and document in the school's AHERA plan. (See Asbestos section starting on page 15.)

Refrigerators

- Never store food in refrigerator containing chemicals!
- Never store flammable chemicals in a refrigerator unless it is a special explosion-proof unit.

V. Resources

For on-site assistance contact

Department of Labor, SafetyWorks! at <http://www.safetyworksmaine.com/> or by calling (207) 624-6400. SafetyWorks! can provide a free on-site safety consultation to help schools. SafetyWorks! is not OSHA and cannot issue fines or citations.

Department of Environmental Protection at (207) 287-2651 for help with chemical management and disposal issues.

Helpful Web Addresses

For a model chemical hygiene plan and chemical inventory form:

<http://www.maine.gov/dep/mercury/school.htm>

For general good laboratory safety information and low-risk experiments:

<http://www.govlink.org/hazwaste/schoolyouth/rehab/> and

<http://www.govlink.org/hazwaste/schoolyouth/rehab/>

For general chemical management information: <http://cfpub.epa.gov/schools/index.cfm>

Sample Chemical Hygiene Plan for Maine Schools

In 1990 the Federal Occupational Safety & Health Administration (OSHA) established regulation 29 CFR 1910.1450, *Occupational Exposures to Hazardous Chemicals in Laboratories*, otherwise known as The Laboratory Standard. The Maine Department of Labor adopted and enforces this legislation for public-sector workplaces.

The legislation requires all employers with science laboratories that meet the requirements of the standard to develop a Chemical Hygiene Plan. The Plan details how each employee will be protected from overexposure to hazardous chemicals and describes specific work practices and procedures in the laboratory to minimize employee risk. Science laboratories are defined as areas where small quantities of chemicals are used on a non-production basis, multiple chemical manipulations or chemicals are used, protective practices and equipment are available and used to protect lab personnel, and work with substances in which the containers used are designed to be easily and safely manipulated by one person.

The Laboratory Standard supercedes other standards within 29 CFR, including the Hazard Communication Standard and the substance specific standards (with the exception of certain elements). Students are not considered employees under this law, but prudence dictates that they should be expected to comply with all practices and procedures.

A Chemical Hygiene Plan reflects a school's chemical hygiene program, which is an ongoing, dynamic effort, not a one-time event. The sample plan below incorporates both requirements and recommendations for complying with the Laboratory Standard and ensuring a safe working and learning environment in science laboratories. Administrators who think that specific measures do not apply in their situations should refer to the Standard to determine if law requires such measures.

Some relevant Maine Department of Environmental Protection and Maine Department of Education regulations are referenced in the sample plan.

To prepare your plan, follow these steps:

1. Read the OSHA Laboratory Standard, 29 CFR 1910.1450. (www.osha.gov)
2. Develop a policy statement, expressing the school or school district's commitment to lab safety.
3. Follow the sample program in order, adding information specific to your school. Review the related sections of the Standard, including Appendix A, as you work on each major program section. For clarification or assistance, contact SafetyWorks! toll-free at 1-877-SAFE-345 (1-877-723-3345) or through www.safetyworksmaine.org. An electronic version of this plan is at this website. To use the electronic version, select/copy/save to your hard drive or a disk.

The information contained in this sample program is not considered a substitute for any provisions of any OSHA or other law or regulation. Use of this sample program does not guarantee compliance with applicable standards. We suggest that a qualified person review your final program.

Chemical Hygiene Plan for _____

POLICY STATEMENT

The _____ School Department has made a commitment to provide a safe environment. All personnel have a right to know about health hazards associated with their work. So that personnel can make knowledgeable decisions regarding personal risks, the Laboratory Chemical Hygiene Plan includes policies, procedures, and responsibilities designed to develop an awareness of potentially hazardous conditions or chemicals in the laboratory and to train personnel in appropriate safe working conditions.

It is important that employers assume responsibility for work site safety. All employees will have access to pertinent safety information through their supervisory staff. The people who work in any given environment are often best able to detect potential hazards in either the facility or work procedures. When safety concerns arise, employees are encouraged to contact their supervisor.

This program is for the benefit and protection of all who use the school facility. It contains information on potential chemical hazards and how they should be handled.

Signed

_____ Superintendent _____ Date

_____ Chemical Hygiene Officer _____ Date

I. Responsibilities

Specific to this Chemical Hygiene Plan for _____ School, employees (teachers, staff), administrators (superintendent, principal), and students all have responsibilities to conform to this standard. The senior administrative officer, _____ (*person or position*) is ultimately responsible for chemical hygiene within the institution and must, with other administrators, provide continuing support for institutional chemical hygiene. 29 CFR 1910.1450 (e)(3)(vii) and Appendix A(B)

A. Administration Responsibilities

1. Appoint a Chemical Hygiene Officer from within the school system. The Chemical Hygiene Officer is _____.
2. Implement a Chemical Hygiene Plan conforming to the OSHA Lab Standard (29 CFR 1910.1450).
3. Ensure that employees receive training regarding the Chemical Hygiene Plan.
4. Allocate staff time for regular, formal chemical hygiene and housekeeping inspections, including routine inspections of emergency equipment and an annual chemical inventory.
5. Maintain a record of all chemical exposures and provide employee access to these records as well as any medical records. Ensure confidentiality of all personal records.
6. Provide resources to ensure that facilities and equipment align with requirements of the Plan.
7. Phase out mercury in the school and/or school district, per Department of Environmental Protection regulations.
8. Ensure that the local Fire Department receives a copy of the annual chemical inventory.

9. List additional administrative responsibilities for lab safety at this school:
-
-

B. Chemical Hygiene Officer Responsibilities

1. Work with the administration and science department staff to develop and implement appropriate chemical hygiene policies and practices.
 2. Monitor procurement, use and disposal of chemicals in the lab, including determining that facilities and training levels are adequate for the chemicals in use.
 3. Perform regular safety audits.
 4. Maintain Material Safety Data Sheets (MSDS) for science laboratory chemicals.
 5. Oversee annual chemical inventory. Provide a copy of the current chemical inventory to the front office and local first responders.
 6. Maintain current knowledge of legal regulations regarding laboratory and chemical safety.
 7. Coordinate annual review of the Chemical Hygiene Plan (CHP) by science staff.
 8. Coordinate annual hazardous waste disposal for science department.
 9. Oversee maintenance of appropriate spill kit and materials.
 10. Maintain communication with administration regarding the CHP.
 11. Provide training to colleagues, including administrators, teachers, and facilities staff.
 12. Submit budget for maintenance of lab equipment and inspections.
 13. List additional responsibilities of Chemical Hygiene Officer in this school:
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C. Teacher Responsibilities

1. Plan and conduct each laboratory operation in accordance with the Chemical Hygiene Plan and safe work practices.
2. Develop good personal chemical hygiene habits.
3. Align curriculum with Chemical Hygiene Plan. Teach good personal chemical hygiene habits. Ensure that students meet their lab safety responsibilities. Prohibit unsupervised work by students.
4. Participate in annual chemical inventory.
5. Plan and conduct each laboratory exercise with the least toxic materials. Obtain and review MSDS prior to requesting new chemical.
6. Annually submit a list of experiments and materials needed to the Chemical Hygiene Officer (CHO).
7. Label, use, and dispose of each chemical as required.
8. Maintain laboratory safety equipment.
9. Maintain spill kits that are consistent with type and amount of chemicals used.

10. Maintain communication with Chemical Hygiene Officer.
11. List additional lab safety responsibilities for teachers at this school:

D. Student Responsibilities

1. Understand the experimental procedure before starting to work in the laboratory.
2. Become familiar with the properties and hazards of the chemicals in use.
3. Obey all safety rules and regulations. Wear appropriate personal protective equipment as instructed.
4. Clean personal work area immediately after use. Obey good housekeeping practices.
5. Do not engage in inappropriate behavior (*i.e.* no horseplay).
6. Conduct only the experiments assigned by the instructor. Never perform unauthorized or unsupervised experiments.
7. Never remove chemicals from the laboratory.
8. Never work in the laboratory unless authorized to do so. Never work alone in the laboratory.
9. Report chemical spills and accidents to teacher immediately.
10. List additional lab safety responsibilities for students at this school:

E. Custodian Responsibilities

1. Understand and follow chemical and hazardous waste management regulations and best practices.
2. Clean science laboratories and storage areas with caution.
3. Report chemical spills to CHO and/or administrator. Do not clean up spills without proper training.
4. List additional lab safety responsibilities for facilities staff at this school:

II. Basic Safety Rules and Procedures

"The Chemical Hygiene Plan shall include...standard operating procedures relevant to safety and health considerations to be followed when laboratory work involves the use of hazardous chemicals." 29 CFR 1910.1450(e)(3)(i) and Appendix A(E)

1. Adhere to the intent and procedures of this CHP.
2. Know the safety equipment. Users of the science labs must know:
 - a. The location of eyewash fountains, safety showers, fire blankets, fire extinguishers, first aid kits, and emergency exits;
 - b. How to respond in case of an emergency; and

- c. How to use the safety equipment. Those expected to use the equipment (e.g. fire extinguishers) must receive proper training.
 3. Know the hazards of the materials being used. Read labels carefully to make sure you are using the right chemical. Know how to interpret information from a Material Safety Data Sheet.
 4. No horseplay, games, or pranks in the laboratory.
 5. Dispose of all waste materials according to instructions. Follow local, state, and federal disposal requirements.
 6. Report any accidents or unsafe conditions to _____ (*person or position*) immediately.
 7. Assume any chemical mixture is more toxic than its most toxic component. Substances of unknown toxicity will be assumed to be toxic. Do not underestimate the risk of any chemicals.
 8. Do not eat, drink, or apply cosmetics in the laboratory.
 9. Do not taste any chemical. Do not smell chemicals directly.
 10. Do not pipette solutions by mouth.
 11. Wash hands with soap and water before leaving the laboratory, even if you have been wearing gloves.
 12. Promptly flush exposed skin with water. Drench showers are located _____.
 13. See also **Housekeeping** section of this CHP.
 14. Additional basic safety rules and procedures for this school:
-
-

III. Chemical Procurement

29CFR1910.1450 Appendix A(D)

1. Before a chemical is procured, proper handling, storage and disposal methods must be known to those responsible.
2. Purchase the smallest possible amounts. Whenever practical, chemicals should be purchased as pre-diluted solutions to minimize mixing and the chance for improper labeling and storage.
3. No container will be accepted without an adequate label and material safety data sheet.
4. The _____ (*school name*) will follow a purchasing policy and procedures to minimize large quantities of chemicals and/or extremely hazardous chemicals from entering the school.
5. No chemical will be purchased in quantities greater than a two-year supply. (Ch. 161 Maine Department of Education regulations)
6. Requests for procurement of new chemicals will be made through _____ (*person or position*). Any concerns about the safety of a requested chemical should be brought to the attention of the Chemical Hygiene Officer or _____ (*person or position*).
7. All chemicals will be received _____ (*location – preferably central location*) by _____ (*person or position*).

8. (Choose one of the following options.)

- The school will not accept donations of chemicals from outside sources.

OR

- The school will not accept donations of chemicals from outside sources without review by the CHO to insure that the material is a) needed by the school; b) useful to the school as donated; c) a quantity no greater than a two-year supply; and d) is not a hazardous waste at the donating organization. The school will follow Maine's Hazardous Waste Management Rules, Chapter 850 Section (3)(A)(4)(xvii) & (xviii) for applicable exclusions and procedures for transfer

IV. Control Measures

"The Chemical Hygiene Plan shall include criteria that the employer will use to determine, and implement control measures to reduce employee exposure to hazardous chemicals including engineering controls, the use of personal protective equipment and hygiene practices...." 29 CFR 1910.1450(e)(3)(ii)

A. Engineering Controls

Engineering controls are the preferred methods of minimizing exposure to chemicals. Controls must be maintained in proper working order. Engineering controls must not be modified unless testing indicates the changes will not reduce protection. Report improper functioning of engineering controls to the Chemical Hygiene Officer immediately.

1. Laboratory Hoods – will be used for all chemical procedures involving volatile substances with a permissible exposure limit (PEL) less than 50 ppm. Work practices for hoods:
 - a. Keep sash closed when not working in the hood. When working in the hood, keep sash height as low as possible.
 - b. Do not store chemicals inside the hood.
 - c. Do not use hood for disposal of volatile chemicals.
 - d. Minimize interference with the inward flow of air into the hood.
 - e. Maintain face velocity between 75 and 125 feet per minute. At this school _____ (*person or position*) is responsible for monitoring the hood and keeping records.
2. Storage cabinets for flammable and hazardous chemicals will be provided and ventilated as needed in compliance with state and federal regulations. The flammable cabinet will be either direct vented to the outside or not vented with gongs left in place.
3. All acids will be stored in an acid cabinet.
4. A general ventilation system will be maintained for each lab with air intakes and exhausts located so as to avoid intake of contaminated air.
5. Additional engineering controls used in this school's science labs include:

B. Protective Clothing and Equipment

Clothing worn in the laboratory should offer protection from splashes and spills, should be easily removable in case of an accident, and should be fire resistant.

1. Conduct a personal protective equipment (PPE) hazard assessment to determine appropriate PPE for conditions, equipment and chemicals being used. List activities requiring PPE and type of PPE required:
- 2.

Activity	Type of PPE required
e.g. chemical handling	chemical goggles

3. Students and staff will wear appropriate PPE to avoid chemical exposure.
 - a. Wear eye protection during chemical transfer and handling.
 - b. Do not wear sandals, perforated shoes, or bare feet in labs.
 - c. Shorts and skirts will not be worn unless a disposable apron is worn.
 - d. Gloves appropriate to the materials and task will be provided. All gloves have a breakthrough time. The teacher will check manufacturer's recommendations.
4. The school will provide required PPE for all employees at no cost.
5. School policy on providing PPE for students:

6. The user must inspect PPE before each use. Defective personal protective equipment will not be used and will be reported to the CHO by the teacher.
7. Each science laboratory will have
 - a. An easily accessible drench-type safety shower;
 - b. An eyewash fountain; and
 - c. An ABC fire extinguisher.
 - d. Other safety equipment at this school:

8. Fire alarms and emergency telephone are located near each lab, at _____ (*locations*).
9. Conduct work with toxic chemicals in a fume/vapor hood. Confirm hood performance before use.

10. Additional protective clothing and equipment practices at this school
-

C. Housekeeping

Each instructor is responsible for keeping his or her workspace clean and is jointly responsible for common laboratory areas.

1. Keep unobstructed access to emergency equipment such as showers, eyewash, fire extinguishers, fire blankets, and emergency exits.
 2. Keep work areas clean and uncluttered, with chemicals and equipment properly labeled and stored. Clean the work area at the end of each operation or each day. Make sure all gas and water outlets are completely shut off. Return all items used in the experiment to their proper storage location.
 3. Dispose chemical wastes according to [Department of Environmental Protection hazardous waste or solid waste rules](#).
 4. Secure gas cylinders.
 5. Clean up any spills on the floor or bench immediately.
 6. Additional housekeeping rules for chemical labs in this school:
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D. Hazardous Material Handling and Storage

Follow all federal, state and local regulations for material handling and storage and waste disposal.

1. Chemicals will be stored in Room(s) _____ (*room number*). _____ (*person or position*) will oversee the chemical storage room(s).
2. All used chemicals and hazardous waste will be stored in Room _____ (*room number*).
3. All chemicals in the stockroom should be stored according to chemical compatibility. Chemicals will be segregated by hazard classification and compatibility in a well-identified area with local exhaust ventilation.
4. Use appropriate shelving or cabinets. If metal clips are used to hold shelves, they should be inspected for corrosion and replaced as necessary.
5. Store flammable liquids in approved fire cabinets. Where possible, vent flammable cabinets to the outdoors. If not possible to vent to the outdoors, do not vent the cabinet at all (leave the bungs on place).
6. Do not store chemicals on the floor (except gas cylinders) or above eye level.
7. Gas cylinders should be properly secured, segregated according to compatibility, and stored upright and away from heat sources.
8. Restrict access to chemical storage areas through signage and secure locks. No student or unauthorized faculty should be allowed in storage area unsupervised.
9. Make sure shelves holding containers are secure. Attach anti-roll lips on shelves to prevent chemicals from falling.
10. When opening newly received chemicals, immediately read the warning label to be aware of any special storage precautions like refrigeration or inert atmosphere storage.

11. Storage of chemicals is not allowed at the lab bench or areas outside the designated chemical storage room, such as in aisles, stairwells or hallways or on desks or floors.
12. Maintain a complete inventory of chemicals in the chemical storage room. Inventory science chemicals at least annually. File the annual inventory with the _____ (*name of local fire department or emergency response*).
13. Any chemicals identified during the inventory as expired, outdated, unlabeled, unknown, or unwanted must be listed for disposal. See **Waste Disposal** section.
14. Mark the acquisition dates on all peroxide forming chemicals, and test them for peroxides or dispose of them after six months.
15. Provide spill cleanup supplies (absorbents, neutralizers) in any room used for chemical storage or use.
16. Exhaust air from the stockroom should be ducted directly to the outside. At this school, _____ (*person or position*) is responsible for ensuring that the exhaust air is properly ducted.
17. Use refrigerators of explosion-proof, or explosion safe design only. Standard refrigerators that have not been converted should never be used to store flammable chemicals; a spark from a light bulb may ignite flammable vapors. Do not store food in the refrigerator.
18. Chemicals should be dated upon receipt, dated to be disposed where appropriate, and dated when opened (e.g., peroxides, anhydrous ethers, sodium nitrites, etc.).
19. Chemical containers should be periodically checked for rust, corrosion, and leakage.
20. Chemical labels should state name of chemical, be firmly attached to the container, list hazards, and name responsible party (manufacturer).
21. Chemical labels must be readable and free from chemical encrustation.
22. Maintain a clear access to and from the storage areas. Where possible, two separate exits shall be provided in chemical storage areas.
23. Highly toxic chemicals (LD 50 50 mg/kg) whose containers have been opened will be stored in secondary containers.
24. _____ (*person or position*) will examine stored chemicals at least _____ (*frequency*) for container integrity.
25. Additional procedures for chemical handling and storage at this school include:

E. Inspections

1. _____ (*person or position*) is responsible for activating safety showers and eyewash fountains _____ (*frequency*) to flush the lines and to verify proper operation.
2. _____ (*person or position*) is responsible for assuring that fume hoods are monitored quarterly to ensure adequate airflow (75-125 linear feet per minute). [SafetyWorks! can conduct monitoring at no cost.]
3. _____ (*person or position*) is responsible for making sure fire extinguishers are the correct type (ABC), at recommended pressure, are easily accessible, and are inspected monthly. Fire extinguishers should be securely mounted on the wall and a sign indicating their location posted above the fire extinguisher.
4. Users should inspect personal protective equipment prior to each use.

- In addition to daily walk-through inspections, _____ (*person or position*) is responsible for conducting safety inspections in each lab _____ (*frequency*) to monitor housekeeping and to make sure safety equipment is working.

- Keep records of inspections:

Inspection description	Date inspected	Inspected by

- Additional inspection procedures at this school include:

V. Medical Program

"The Chemical Hygiene Plan shall include provisions for medical consultation and medical examinations in accordance with paragraph (g) of this section." 29 CFR 1910.1450(e)(3)(vi) and (g)

A. Medical Consultation and Examination

When employees or supervisors suspect that an employee has been exposed to a hazardous chemical to a degree and in a manner that might cause harm to the victim, the victim is entitled to a medical consultation and examination without cost or loss of pay to the employee. Medical records shall be retained according to state and federal laws in accordance with 29 CFR 1910.1020. The events and circumstances that might result in overexposure to a chemical are:

- A hazardous chemical leaked, was spilled, or otherwise released in an uncontrolled manner.
- A hazardous chemical was spilled on the skin or splashed in the eye.
- A person displays signs or symptoms that might indicate overexposure to a hazardous chemical including but not limited to rash, headache, nausea, coughing, tearing, irritation or redness of eyes, irritation of nose or throat, dizziness, loss of motor dexterity or judgment.
- This school has arranged for _____ (*name of healthcare organization*) to provide medical consultations/examinations in the event of chemical exposure:

B. Exposure Assessment

- All chemical exposure incidents shall be documented on an accident report form (attach sample form to this plan), along with any action taken. If no further action is taken, the reason for that decision should be included. In this school _____ (*person or position*) is responsible for investigating chemical exposure incidents.
- Method for investigating exposure incidents at this school:

C. First Aid

1. Personnel trained in first aid should be available during work hours. The following have receive first aid training and are expected to render first aid:

(list persons or positions)

2. The closest emergency room with medical personnel is _____ *(name and address)*.

VI. Signs and Labels

29CFR1910.1450 Appendix A (D)(8)

The following signs and/or labels should be posted prominently in the laboratory:

1. Emergency telephone numbers of emergency personnel, emergency facilities, administration, and the laboratory instructor.
Rescue: _____
Fire: _____
Hospital: _____
Poison Control: _____
Administration: _____
Lab Instructor: _____
Department of Public Safety: 1-800-452-4664
2. Labels on all chemicals and other containers indicating the contents (including waste receptacles) and associated hazards.
3. Location of exits, safety showers, eyewash station, fire extinguisher, fire blanket, and other safety equipment.
4. Label all laboratory refrigerators "NO FOOD STORAGE ALLOWED".
5. Warnings at areas or equipment where special or unusual hazards exist.
6. Additional labeling at this school includes:

VII. Spills and Accidents

29CFR1910.1450 Appendix A (D)(9)

1. In the event of a spill, staff must contact the CHO or _____ *(other authorized persons)* **before beginning cleanup** . The CHO or other authorized person *will* assess the nature of the spill using the School's Emergency Response Plan to determine appropriate response. The Emergency Response Plan for this school is located at _____ *(location)*.
2. The responsible staff will evacuate all persons from the spill or accident area until certain that the spill is not hazardous to people in the general area.

3. _____ (*person or position*) is responsible for writing the accident report.
_____ (*person or position*) will maintain accident records.
4. Each student, teacher and staff member must know immediately what to do and where to go in case of any emergency.
5. At this school _____ (*person or position*) is responsible for promptly addressing the needs of people who may have been exposed.
6. The CHO or _____ (*other authorized persons*) must report the spill to the Department of Public Safety (1-800-452-4664).
7. All waste generated from a chemical spill will be treated as hazardous waste.
8. Custodians and faculty cannot respond to chemical spills unless appropriate training and equipment has been provided. List of people trained to conduct spill response at this school, and date training was conducted:

Employees trained in spill response	Date trained

9. Additional spill/accident procedures at this school: _____
-

VIII. Waste Disposal

Aim: To assure that minimal harm to people, other organisms, and the environment will result from the disposal of waste laboratory chemicals." 29 CFR 1910.1450 (Appendix A (D)(11)).

Environmental regulations also govern chemical waste disposal. Go to [Department of Environmental Protection Rules](#) and scroll to chapters 850 and 851.

1. Prior to the start of each semester, _____ (*persons or positions*) will complete an inventory of stored chemical wastes (including virgin chemical stock identified as waste) and submit it to the CHO.
2. The CHO or _____ (*other designated person or position*) will coordinate hazardous waste disposal. Waste will be collected for disposal at least _____ (*frequency*).
3. Indiscriminate disposal by pouring waste down the drain or adding them to the general trash is unacceptable. It is not permissible to neutralize quantities of >500 milliliters of corrosive hazardous waste or evaporate, chemically treat, distill, filter, or burn other hazardous waste chemicals.
4. If large quantities of hazardous chemical wastes are being stored or if a container is full, a hazardous waste pick-up should be scheduled by the CHO within 180 days of the container becoming full.
5. The CHO or _____ (*specify other*) is responsible for all hazardous waste manifests and associated paperwork.
6. No hazardous waste pick-ups will be scheduled during regular school hours.

7. All chemical wastes destined for hazardous waste disposal must be stored in the designated, signed hazardous waste storage area, Room_____, in appropriate DOT approved shipping containers and segregated for compatibility. All containers must have the following information on the label:

- "Hazardous Waste"
 - The chemical contents,
 - The date that waste was first put in and
 - The date the container was filled.
 - In this school, waste is collected, segregated, stored, transported and disposed of as follows (or attach waste disposal plan.):
- _____
- _____

8. When a hazardous waste pick-up is needed, this school will contact _____(company name) at _____(phone number) to transport and dispose of hazardous waste.

NOTE: Most schools are usually considered Small Quantity Generators by the Department of Environmental Protection. Schools that do not know their regulator status should check with DEP (Ann Pistell – 287-7703).

This school is on a (*select one*) *septic system* or *municipal sewer system*.

If on a septic system:

No liquid chemicals, other than appropriate cleaning chemicals, will be disposed of down the drain. Non-hazardous liquid chemicals may be solidified for solid waste disposal (i.e. put in the trash). Custodians must be notified of any chemical put in the trash for disposal. Hazardous waste must not be disposed of down the drain, solidified or placed in the trash. Hazardous waste must be disposed of by a licensed hazardous waste transporter at a facility licensed to accept hazardous waste.

If on a municipal sewer system:

Non-hazardous liquid may be disposed of down the drain with the permission of the _____ sewer district (*contact name and phone number* _____). Corrosive hazardous waste, which is hazardous only due to pH (i.e. no contaminants of heavy metals, solvents, etc.), and which is less than 500 milliliters in quantity, may be neutralized to a non-hazardous waste prior to disposal. Non-hazardous liquid chemicals may also be solidified for solid waste disposal (i.e. put in the trash). Custodians must be notified of any chemical put in the trash for disposal.

IX. Information and Training

29 CFR 1910.1450(f)

1. All employees will be trained on the hazards of the chemicals in the laboratory and how to work safely with them. They will receive training at the time of employment and prior to assignments involving new exposure situations.
2. Teachers are responsible for teaching students about hazards and safe practices.
3. _____ (*person or position*) is responsible for ensuring that employees receive information and training to ensure they are aware of the hazards of chemicals that are present in their work area. This training must include the following:

- a. The contents OSHA Lab Standard and appendices;
- b. Location and availability of Chemical Hygiene Plan, chemical safety reference materials, including Material Safety Data Sheets and the Permissible Exposure Limits for OSHA regulated substances. In this school:
 - The Chemical Hygiene Plan is kept _____ (*location*).
 - Material Safety Data Sheets are kept _____ (*location*).
 - Additional safety information is located _____ (*location*).
- c. Signs and symptoms associated with exposure to hazardous chemicals.
- d. Methods and observations that may be used to detect the presence or release of a hazardous chemical (visible appearance, odor, monitoring equipment, etc.).
- e. Knowledge of the hierarchy of protective measures such as engineering controls, work practices, personal protective equipment, and emergency procedures to protect workers from overexposure to hazardous chemicals.
- f. Emergency procedures to be used in case of a spill or exposure, including clean up methods and equipment needed.
- g. Use of fire extinguishers and other emergency equipment.

X. Annual Chemical Hygiene Plan Audit

29CFR1910.1450 (e)(4)

_____ (*person or position*) will conduct an audit of all phases of the Chemical Hygiene Plan each year. He or she will provide audit results to _____ (*people or positions*), who are responsible for taking corrective action.

Example of the Chemical Inventory Form provided by Me DEP
Available in Excel at <http://www.maine.gov/dep/mercury/school.htm>

	Revised: 9/12/05				Scientific Lab Chemical Inventory						
School:				Room #:				Date:			
Teacher :				Location of Chemicals :							
	Please note: Chemicals in red are considered very high hazard. Look for substitutes.										
	Some household type items, such as tin foil and dextrose, are listed because they are in science store rooms and you may want to keep track of your inventory.										
	To find an MSDS on a chemical:	http://www.ilpi.com/msds/index.html#Internet									
Storage	CHEMICAL NAME	Solid	Grade	CAS	Number of	Container	Container	Purchase	Disposal	Haz	RCRA
(Flinn)		Liquid	(lab,	Number	containers	Size	condition	Date	Needed	Waste?	Code
method		or Gas	reagent,			(L, ml, mg,	(good, fair,	or general	(date or X)		
			other)			gr, oz. etc)	poor)	age			
Example	Ammonium Carbonate	solid		506-87-6	1	100 g	good	3/1/2003		n	
O 8	1- Naphthol	S		90-15-3						N	N
O 2	1-Pentanol (See N-Amyl Alcohol)	L		71-41-0						Y	D001
O 1	Absciscic Acid	S		14375-45-2						N	N
O 1	Acacia (Gum Arabic) Granular	S		9000-01-5						N	N
O 1	Acacia (Powder)	S		9000-01-5						N	N
O 3	Acetaldehyde	L		75-07-0						Y	D001 U001
O 2	Acetamide	L		60-35-5						N	N
O 2	Acetanilide	L		103-84-4						N	N
O 1	Acetic Acid Glacial, 99.7%	L		64-19-7						Y	D001 D002
O 1	Acetic Acid Solution	L		64-19-7						Y	D002
O 1	Acetic Anhydride (Lab)	L		108-24-7						Y	D001 D002
O1	Acetic Anhydride, 97%,	L		108-24-7						Y	D001 D002
O 4	Acetone, 99.5%	L		67-64-1						Y	D001 U002

Example Purchase Request Form for Hazardous Lab Chemicals

1. Person requesting chemical: _____ Date: _____
2. Storage Location: Building _____ Room _____
3. Storage requirements: (circle) Shelf storage Spark-proof refrigerator/freezer
Flammables cabinet Corrosives cabinet Poison cabinet
4. Material's common name: _____ CAS # _____
Chemical name, if different _____
5. Existing quantity available: _____
6. Quantity needed in the next year (circle one) <1 liter or 100 gm; 1 liter/100 gm to 5 liter/1 kg;
5 liter/1 kg to 20 liter/5 kg; > 20 liter/5 kg
7. Concentration requested: Dilute (<5%); Intermediate (5-25%); Concentrated (>25%)
8. What hazard(s) does this material(s) present? (circle as appropriate)
Flammability Corrosivity Reactivity Acute Toxicity
Chronic Toxicity Carcinogenicity/Teratogenicity/Mutagenicity
9. Chemical Safety Information and Training (circle as appropriate)
- Is safety information for these materials available? Yes No
 - Has training in the safe use of these materials been provided to all potential users? Yes No
10. What control measures are necessary to use the material(s) safely: (circle as appropriate)
- Engineering Controls: Fume hood Safety cabinet Gas monitors
 - Personal Protective Equipment: Lab coats Gloves (type _____)
Eye protection Other _____
11. Method of disposal (circle): Hazardous waste pick-up Neutralized Consumed during process

Science Teacher Chemical Hygiene Officer Date

Excessive Risk Chemicals –Risk Exceeds Educational Utility

It is recommended that schools dispose of these chemicals

Many chemicals typically found in middle and high schools pose unacceptable risks. The following list is not all-inclusive but is provided to illustrate the importance of evaluating the risk a chemical poses before purchasing. The Maine DEP takes no responsibility for the content or accuracy of this information, nor implies any warranty or guarantee that the information contained in this list is complete. Some chemicals listed have multiple risks. Risk may also be a function of age, quantity, and storage conditions. **Caution: If you discover a potential explosive do not touch or move the container. Call your local fire dept. or emergency personnel.**

Chemical Name	Hazards
Acetic Anhydride	Explosive potential, corrosive
Acetyl Chloride	Corrosive, dangerous fire risk, reacts violently with water and alcohol
Acrylamide	Toxic by absorption, suspected carcinogen
Acrylonitrile	Flammable, poison
Adipoyl Chloride	Corrosive; absorbs through skin, lachrymator
Aluminum Chloride, anhydrous	Water reactive, corrosive
Ammonia, gas	Corrosive lachrymator
Ammonium Bifluoride	Reacts with water, forms Hydrofluoric Acid
Ammonium Bichromate	May explode on contact with organics, suspected carcinogen
Ammonium Chromate	Oxidizer, poison; may explode when heated
Ammonium Dichromate	Reactive, may cause fire and explosion
Ammonium Perchlorate	Explosive; highly reactive
Ammonium Sulfide	Poison, Corrosive, Reacts with Water & Acids
Aniline	Carcinogen, toxic, absorbs through skin
Aniline Hydrochloride	Poison
Antimony Oxide	Health and contact hazard
Antimony Powder	Flammable as dust, health hazard
Antimony Trichloride	Corrosive; emits hydrogen chloride gas if moistened
Arsenic compounds	Poison, carcinogen
Asbestos, Friable	Inhalation Health Hazard, Carcinogen
Azide Compounds	Explosive in contact with metals, extremely reactive, highly toxic
Barium Chromate	Poison
Benzene	Flammable, carcinogen
Benzoyl Peroxide Organic	peroxide, flammable, oxidizer
Beryllium and its compounds	Poison. Dust is P-listed & highly toxic. Carcinogen
Bromine	Corrosive, oxidizer, volatile liquid
Cadmium compounds	Toxic heavy metal, carcinogen
Calcium Fluoride (Fluorspar)	Teratogen. Emits toxic fumes when heated
Carbon Disulfide	Flammable, toxic, P-Listed Extremely Hazardous
Carbon Tetrachloride	Toxic, carcinogen
Chloral Hydrate	Hypnotic drug. Controlled substance
Chlorine.	Poison gas. Corrosive
Chlorobenzene	Explosive limits 1.8% to 9.6%, toxic inhalation and contact hazard
Chloroform.	Carcinogen If old forms deadly Phosgene gas.
Chlorosulfonic Acid	Toxic a/k/a Sulfuric Chlorohydrin
Chromic Acid	Strong oxidizer. Poison
Collodion	Flammable. Explosive when dry. Nitrocellulose compound.
Cuprous Cyanide	Toxic
Cyanogen Bromide	Poison, strong irritant to skin and eyes
Cyclohexene	Flammable, peroxide former
Dichlorobenzene	Toxic
Dichloroethane.	Flammable. Toxic
Dinitro Phenol	Explosive. "Bomb Squad"

Excessive Risk Chemicals –Risk Exceeds Educational Utility
It is recommended that schools dispose of these chemicals

Chemical Name	Hazards
Dinitrophenyl Hydrazine	Severe explosion and fire risk
Dioxane	Flammable, peroxide former
Ether, Anhydrous	Flammable, peroxide former
Ether, Ethyl	Flammable, peroxide former
Ether, Isopropyl	Flammable, peroxide former
Ethylene Dichloride	Toxic, contact hazard, dangerous fire risk, explosive in air 6-16%
Ethyl Nitrate	Explosive. "Bomb Squad"
Ethyleneimine	Flammable. Toxic. P -listed
Ferrous Sulfide	Spontaneously ignites with air if wet
Formaldehyde (Formalin)	Toxic, carcinogen, sensitizer
Gunpowder	Explosive
Hydrazine	Flammable Absorbs thru skin Carcinogen. Corrosive
Hydriodic Acid	Corrosive. Toxic
Hydrobromic Acid	Corrosive. Poison
Hydrofluoric Acid	Corrosive, poisonous
Hydrogen	Flammable
Hydrogen Sulfide, gas	Poison. Stench
Immersion Oil (old)	May contain 10-30% PCBs such as Arochlor 1260.
Isopropyl Ether	Flammable, Highest-risk peroxide former
Lithium Aluminum Hydride	Flammable. Reacts with air, water and organics
Lithium Metal	Reacts with water, nitrogen in air
Mercaptoethanol	Flammable. Corrosive. Intense stench
Mercury compounds	Poisonous heavy metal
Mercury, liquid	Toxic heavy metal, carcinogen
Methylene Chloride	Toxic, carcinogen, narcotic
Methyl Ethyl Ketone	Flammable, dangerous fire risk, toxic
Methyl Iodide (Iodomethane)	May be a narcotic; Carcinogen. Lachrymator.
Methyl Isocyanate	Flammable, dangerous fire risk, toxic
Methyl Isopropyl Ketone	Toxic
Methyl Methacrylate	Flammable. Vapor causes explosive mix with air
Naphthylamine, a-	Combustible, Toxic. Carcinogen.
Nickel Oxide	Flammable as dust. Toxic, carcinogen
Nicotine	Poison. P-Listed Extremely Hazardous
Nitrilotriacetic Acid	Corrosive
Nitrobenzene	Highly toxic
Nitrocellulose	Flammable. Explosive.
Nitrogen Triiodide	Explosive. "Bomb Squad"
Nitroglycerin	Explosive. "Bomb Squad"
Osmium Tetraoxide (Osmic Acid)	Highly toxic. P-Listed Extremely Hazardous.
Pentachlorophenol	Extremely toxic
Perchloric Acid	Powerful oxidizer, reactive
Phosphorus Pentasulfide	Water Reactive. Toxic. Incompatible with Air & Moisture
Phosphorus Pentoxide	Oxidizer, toxic
Phosphorus, Red	Flammable solid
Phosphorus, Yellow or White.	Air reactive. Poison.
Picric Acid, Trinitrophenol	Explosive when dry
Potassium Cyanide	Poison. P-Listed Extremely Hazardous
Potassium Perchlorate	Powerful oxidizer. Reactivity hazard
Potassium Sulfide	Flammable. May ignite spontaneously.
Potassium, metal	Water reactive, peroxide former (orange fog/crystals)
Pyridine	Flammable. Toxic. Vapor forms explosive mix with air
Selenium	Toxic.
Silver Oxide	Poison
Silver Cyanide	Extremely toxic
Sodium metal lump	Water reactive, ignites spontaneously in dry hot air, corrosive

**Excessive Risk Chemicals –Risk Exceeds Educational Utility
It is recommended that schools dispose of these chemicals**

Chemical Name	Hazards
Sodium Arsenate.	Toxic. Carcinogen
Sodium Arsenite	Toxic. Carcinogen.
Sodium Azide	Poison, explosive reaction with metals. P-Listed Extremely Hazardous
Sodium Borohydride	Flammable Solid. Water Reactive
Sodium Cyanide	Poison. P-Listed Extremely Hazardous
Sodium Fluoride (Bifluoride)	Highly toxic by ingestion or inhalation; strong skin irritation
Sodium Fluoroacetate	Tox-X Deadly poison!
Sodium Peroxide	Water reactive; may cause fire & explosion
Sodium Sulfide	Fire and explosion risk
Strontium	Flammable. Store under naphtha. Reacts with water.
Testosterone HCl	Controlled substance
Tetrahydrofuran	Flammable, peroxide former
Thioacetamide.	Toxic. Carcinogen. Combustible
Thionyl Chloride	Corrosive.
Thiourea	Carcinogen
Titanium Trichloride	Flammable. Fire risk.
Triethylamine	Flammable. Toxic. Irritant.
Trinitrobenzene	Explosive. "Bomb Squad"
Trinitrophenol	Explosive. "Bomb Squad"
Trinitrotoluene	Explosive. "Bomb Squad"
Uranium/Uranyl Compounds	Radioactive

This list is credited to the “Rehab The Lab” program from King County, Washington. Their web site includes other excellent information, including low hazard experiments for science programs and can be accessed at <http://www.govlink.org/hazwaste/schoolyouth/rehab/>

Chapter 161: PURCHASE AND STORAGE OF HAZARDOUS CHEMICALS

Summary: This rule establishes standards for the purchase and storage of hazardous chemicals in all public schools of the state.

1. DEFINITIONS

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings:

Hazardous chemical: "Hazardous chemical" means a chemical which is a physical hazard or a health hazard, as listed by the (Maine Department of Labor) Bureau of Labor Standards.

Health hazard: "Health hazard" means a chemical which is:

- a. Listed in the Toxic and Hazardous Substance section of the regulations of the Occupational Health and Safety Act labeling standard in the United States Code of Federal Regulations 29, Part 1910, Subpart Z;
- b. Listed in the Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment, American conference of Governmental Industrial Hygienists, latest edition;
- c. A carcinogen or potential carcinogen, listed in The Registry of Toxic Effects of Chemical Substances, published by the National Institute for Occupational Safety and Health, latest edition based on the National Toxicology Program Annual Report on Carcinogens or the International Agency for Research on Cancer Monographs;
- d. Listed as radioactive material in regulations promulgated by the United States Nuclear Regulatory Commission;
- e. Contained on a list established by the director (of the Bureau of Labor Standards) by rule after consultation with the Bureau of Health and which meets any of the following criteria:
 - (1) Has a median lethal oral dose of not more than 500 milligrams per kilogram of body weight;
 - (2) Has a median lethal dermal dose of not more than 1,000 milligrams per kilogram of body weight;
 - (3) Has median inhalation lethal concentration in air of not more than 2,000 parts per million by volume of gas or vapor, or more than 2 milligrams per liter but not more than 20 milligrams per liter of mist, fume or dust; or

- (4) Has been found by the director (of the Bureau of Labor Standards), based on established scientific principles, to have significant potential to cause adverse, acute or chronic health effects; or
- f. A mixture which is a health hazard based on application of the criteria a through e to the mixture as a whole, or which contains more than 1% by weight or volume of a chemical which is a health hazard or which contains more than 0.1% by weight or volume of a carcinogen identified in accordance with paragraph c.

Material Safety Data Sheet: "Material Safety Data Sheet" means a form containing information concerning a hazardous chemical substantially equivalent in content to Form 20 of the United States Occupational Safety and Health Administration, but which includes both acute and chronic health hazard information.

Physical hazard: "Physical hazard" means a chemical which is:

- a. Listed in the United States Department of Transportation Hazardous Materials Table, 49 Code of Federal Regulations 172,101;
- b. Contained on a list established by the director (of the Bureau of Labor Standards) after consultation with the State Fire Marshal and which meets any of the following criteria:
 - (1) Is a combustible liquid, i.e., any liquid with a flash point above 100 degrees F, and below 200 degrees F.;
 - (2) Is a compressed gas (other than air), i.e., any chemical having in the container an absolute pressure exceeding 40 PSI at 70 degrees F. or having an absolute pressure exceeding 104 PSI at 130 degrees F. or any liquid having a vapor pressure exceeding 40 PSI absolute pressure at 100 degrees F.;
 - (3) Is an explosive, i.e., any chemical that causes a sudden, almost instantaneous release of pressure, gas and heat when subjected to sudden shock, pressure or high temperature;
 - (4) Is a flammable substance, i.e., any liquid with a flash point of below 100 degrees F., solid that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change or retained heat from manufacturing or processing or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard, or gas which at atmospheric temperature or pressure forms a flammable mixture with air when present at a concentration of 13% or less by volume or that forms a range of flammable mixtures with air wider than 12% by volume regardless of the lower limit;
 - (5) Is an organic peroxide, i.e., an organic compound that contains the bivalent -O-O- structure and which is a derivative of hydrogen peroxide

where one or more hydrogen atoms have been replaced by organic radicals;

- (6) Is an oxidizer, i.e., a chemical that initiates or promotes combustion in other materials thereby causing fire;
 - (7) Is pyrophoric, i.e., a chemical that will ignite spontaneously in air at a temperature of 130 degrees F. or below;
 - (8) Is unstable (reactive), i.e., a chemical which will vigorously react under conditions of shock, pressure or temperature, or
 - (9) Is water reactive, i.e., a chemical that reacts with water to release a gas that is either flammable or presents a health hazard; or
- c. A mixture which is a physical hazard based on applicability of the criteria of paragraphs a and b to the mixture as a whole.

2. PURCHASE OF HAZARDOUS CHEMICALS

- A. A Hazardous Chemical Screening Process shall be established in each school administrative unit to review and approve the purchase of any hazardous chemical required by any department, academic as well as service function. The process will be conducted under the direction of the superintendent of the school unit (or his or her representative) in consultation with school employees in specialty areas in which the hazardous chemicals are to be used,
- B. Requests for the purchase of a hazardous chemical shall include at least the following information:
 - 1. The common and chemical name of the chemical;
 - 2. The amount of the chemical needed for the year;
 - 3. The storage requirements, curricular use and waste disposal procedures for the chemical; and
 - 4. The amount and age of any existing quantities of the chemical.
- C. When purchasing hazardous chemicals that have a shelf life of greater than two years, the school unit shall order quantities which can be fully consumed under normal conditions and use within two years of the purchase date. If the hazardous chemical has a shelf life of less than two years, the quantity purchased must be consumable under normal conditions and use within the stated shelf-life period.

3. STORAGE OF HAZARDOUS CHEMICALS

- A. Inventory lists of all hazardous chemicals shall be submitted to the Director of the Bureau of Labor Standards, Department of Labor. ***(Note: The requirement to submit an annual inventory to DOL has been repealed. Schools, nevertheless are still required to have a current annual inventory and must submit them to the DOE instead.)*** Those lists shall be updated annually.
- B. Chemicals which are beyond their published shelf-life or expiration date or which are chemical wastes (including unwanted and unneeded chemical or chemicals) shall be disposed of in accordance with applicable state (38 MRSA Section 1301 et seq. and Chapters 850 to 857 of the Maine Department of Environmental Protection's Hazardous Waste Management Rules) and federal (Title 40 Code of Federal Regulations, Chapters 260-266) laws and regulations.
- C. Quantities of hazardous chemicals in storage shall be limited to that expected to be used in a two year period.
- D. Hazardous chemicals shall be stored in accordance with the specifications described on the Material Safety Data Sheets, consistent with an acceptable compatibility classification system and shall be accurately and appropriately labeled in accordance with 26 MRSA Section 1713.
- E. Storage areas shall be secure and accessible only to trained personnel. Storage shall be on steel or wood shelving with acid-resistant paint with safety lips to prevent spillage. Shelves shall be securely anchored to the floor, wall and/or ceiling and shall be clearly labeled to indicate the kind of chemicals that are to be stored there.
- F. It is recommended that a continuous flow (plumbed) eyewash station, which is capable of providing fifteen (15) minutes of continuous irrigation of both eyes, and a deluge shower be readily accessible from the storage area.
- G. There shall be an ABC fire extinguisher, or its equivalent, of at least 10 pounds and preferably 20 pounds capacity within fifty (50) feet of the storage area,
- H. Material and equipment for spill control shall be provided,
- I. It is recommended that chemical storage areas should be vented to provide four (4) room changes per hour to the outside of the building away from air intakes, Vents shall be in operation whenever school is in session or whenever school personnel are in attendance.

4. MONITORING

- A. The Department of Education shall monitor the school unit's compliance with these rules as part of the Comprehensive School Review required in 20-A MRSA § 4504 (2).
- B. Other monitoring visits may be scheduled at the discretion of the Commissioner.

5. ENFORCEMENT MEASURES

- A. The superintendent of any school or school unit which fails to comply with the above standards shall be notified in writing pending enforcement action by the Commissioner. Such notice shall include a statement of the laws and regulations with which the school or school unit fails to comply.
- B. School units failing to comply with the above standards shall be given notice and the opportunity for a hearing. The Commissioner may withhold subsidy and other state funds from a school unit until compliance is achieved. If compliance is not achieved within a time determined by the Commissioner, the Commissioner may refer the matter to the Attorney General for legal action.

STATUTORY AUTHORITY: 20-A MRSA § 15613 (14)

EFFECTIVE DATE: September 1, 1991

EFFECTIVE DATE (ELECTRONIC CONVERSION): May 19, 1996

Glove Chart

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phone: 1-800-255-6401 fax: 1-800-579-3555

Chemical Name	NFPA Health Rating	Nitrile	Natural Rubber Latex	Recommended Alternate Material
ACETALDEHYDE	3	P	G	
ACETIC ACID (GLACIAL)	3	F	G	
ACETIC ANHYDRIDE	3	F	G	
ACETONE	1	F	G	
ACETONITRILE	2	F	F	Butyl (E)
ACRYLIC ACID	3	G	G	
AMMONIUM ACETATE		E	E	
AMMONIUM CARBONATE		E	E	
AMMONIUM FLUORIDE, 30-70%	3	E	E	
AMMONIUM HYDROXIDE, 30-70%		E	E	
AMMONIUM HYDROXIDE, <30%		E	E	
AMYL ALCOHOL	1	E	G	
ANILINE	3	F	G	
AQUA REGIA		P	P	Neoprene (F)
AZT			G	
BENZALDEHYDE	2	P	F	Butyl (E)
BENZENE	2	F	P	Viton (G)
BORIC ACID		E	G	
BROMOPROPIONIC ACID		F	G	
BUTYL ACRYLATE	2	P	P	Teflon (G)
BUTYL CELLUSOLVE		G	G	
CALCIUM HYDROXIDE		E	E	
CARBON DISULFIDE	3	G	P	
CARBON TETRACHLORIDE	3	P	P	Viton (G)
CHLOROBENZENE	2	P	P	Viton (G)
CHLORODIBROMOMETHANE		P	P	Viton (G)
CHLOROFORM	2	P	P	Polyvinyl Alcohol (G)
CHLORONAPHTHALENES	1	P	P	Viton (G)
CHROMIC ACID	3	F	P	(G)
CISPLATIN		G	G	
CITRIC ACID, 30-70%		E	E	
CYCLOHEXANE	1	E	P	
CYCLOHEXANOL	1	E	G	
CYCLOHEXANONE	1	P	P	Butyl (G)
CYCLOHEXYLAMINE	3	P	P	
DI-N-AMYLAMINE	3	E	P	
DI-N-BUTYLAMINE	3	E	P	
DI-N-BUTYLPHTHALATE	0	E	F	
DI-N-OCTYLPHTHALATE	0	E	F	
DIACETONE ALCOHOL	1	G	F	
DIALYLAMINE		P	P	Viton (G)
DICHLOROACETYL CHLORIDE	3	P	P	Viton (G)
DIESEL FUEL	0	E	P	
DIETHANOLAMINE	1	E	E	
DIETHYLAMINE	3	G	F	
DIETHYLENE GLYCOL	1	E	E	
DIETHYLENETRIAMINE	3	P	P	Neoprene (G)
DIISOBUTYL KETONE	1	G	P	
DIISOBUTYLAMINE	3	E	P	
DIMETHYL ETHER		G	P	
DIMETHYL SULFOXIDE (DMSO)	1	G	E	
DIMETHYLACETAMIDE	2	F	G	
DIMETHYLFORMAMIDE (DMF)	1	P	P	Butyl (G)
1, 3-DIOXANE		P	F	Butyl (G)
1, 4-DIOXANE	2	P	P	Butyl (G)
EPICHLOROHYDRIN	3	P	F	Butyl (G)
ETHANOL	0	G	G	
ETHYL ACETATE	1	P	F	Butyl (G)

Glove Chart

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phone: 1-800-255-6401 fax: 1-800-579-3555

ETHYL ETHER	1	G	P	
ETHYLENE GLYCOL DIMETHYL ETHER	2	F	F	Butyl (G)
ETHYLENE DICHLORIDE	2	P	P	Polyvinyl Alcohol (E)
ETHYLENE GLYCOL	1	E	E	
FORMALDEHYDE, 30-70%	3	E	G	
FORMIC ACID	3	G	E	
FREON 113 OR TF		E	P	
FREON TMC		F	F	Polyvinyl Alcohol (E)
FURFURAL	3	P	P	Butyl (G)
GASOLINE, 40-50% AROMATICS	1	E	P	
GASOLINE, UNLEADED	1	G	P	
GLUTARALDEHYDE, <5%		G	G	
GLYCEROL		E	E	
HEPTANES	1	E	P	
HEXANE	1	E	P	
HYDRAZINE	3	E	F	
HYDROCHLORIC ACID, <30%	3	G	E	
HYDROCHLORIC ACID, 30-70%		G	G	
HYDROFLUORIC ACID, <10%	4	G	G	
ISOBUTYL ALCOHOL	1	E	P	
ISOOCTANE	0	E	P	
ISOPROPYL ALCOHOL	1	E	E	
ISOPROPYLAMINE	3	P	P	Teflon (G)
JET FUEL <30% AROMATICS 73-248C	1	G	P	
KEROSENE		E	P	
LACTIC ACID		E	E	
LAURIC ACID		E	E	
MALATHION, 30-70%		G		
MALEIC ACID		G	G	
METHANOL	1	F	F	Neoprene (G)
METHYL ACETATE	1	P	P	Butyl (G)
METHYL ETHYL KETONE	1	P	P	Butyl (E)
METHYL ISOBUTYL KETONE	2	P	P	Butyl (G)
METHYL METHACRYLATE	2	P	P	Polyvinyl Alcohol (E)
METHYLENE CHLORIDE	2	P	P	Polyvinyl Alcohol (G)
AMYL ACETATE	1	F	P	Butyl (G)
BUTYL ACETATE	1	F	P	Butyl (G)
BUTYL ALCOHOL	1	E	E	
N-METHYL-2-PYRROLIDONE	2	P	E	
N-NITROSODIETHYLAMINE		P		Butyl (G)
PROPYL ALCOHOL		E	E	
NAPHTHA, 15-20% AROMATICS		E	P	
NAPHTHA, <3% AROMATICS	1	E	P	
NITRIC ACID, <30%	3	G	G	
NITRIC ACID, 30-70%	3	P	P	Neoprene (G)
NITROBENZENE	3	F	F	Butyl (G)
NITROETHANE	1	P	G	
1-NITROPROPANE	1	P	F	Butyl (G)
2-NITROPROPANE	1	P	P	Butyl (G)
OCTANE	0	G	P	
OCTYL ALCOHOL	1	E	E	
OLEIC ACID	0	E	G	
OXALIC ACID	3	E	E	
PALMITIC ACID		G	F	
PCB (POLYCHLORINATED BIPHENYLS)	2	G	P	
PENTACHLOROPHENOL	3	G	P	
PENTANE	1	E	P	
PERCHLORIC ACID, 30-70%	3	F	F	Neoprene (F)
PERCHLOROETHYLENE	2	G	P	
PEROXYACETIC ACID		P	P	Butyl (G)
PETROLEUM ETHERS, 80-110C	1	G	P	
PHENOL	4	F	F	(F)
PHOSPHORIC ACID	3	G	F	

Glove Chart

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PICRIC ACID	3	E	G	
POTASSIUM HYDROXIDE	3	E	G	
POTASSIUM IODIDE		G	G	
PROPYL ACETATE	1	F	P	Butyl (F)
PYRIDINE	3	P	P	Butyl (G)
SODIUM CARBONATE		E	E	
SODIUM CHLORIDE		E	E	
SODIUM FLUORIDE	3	G	G	
SODIUM HYDROXIDE, 30-70%	3	G	E	
SODIUM HYPOCHLORITE		E	E	
SODIUM THIOSULFATE		G	G	
STYRENE	2	P	P	Polyvinyl Alcohol (G)
SULFURIC ACID, <70%	3	F	G	
SULFURIC ACID, >70%	3	P	P	Butyl (G)
TANNIC ACID	0	G	G	
1,1,1,2-TETRACHLOROETHANE		F	P	Viton (G)
TETRAHYDROFURAN	2	F	P	Teflon (G)
TOLUENE	2	F	P	Viton (G)
TOLUENE-2,4-DIISOCYANATE (TDI)	3	P	P	Butyl (G)
1,2,4-TRICHLOROENZENE	2	F	P	Teflon (G)
1,1,1-TRICHLOROETHANE	2	P	P	Viton (G)
1,1,2-TRICHLOROETHANE	2	P	P	Viton (G)
TRICHLOROETHYLENE	2	P	P	Viton (G)
TRICRESYL PHOSPHATE	2	G	G	
TRIETHANOLAMINE	2	E	E	
TURPENTINE	1	E	P	
XYLENES	2	F	P	Viton (G)

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[\[top\]](#)

The National Fire Protection Association (NFPA) has developed a system for indicating the health hazards of chemicals:

- 4** Danger, may be fatal on short exposure. Specialized protective equipment required.
- 3** Warning, corrosive or toxic.
- 2** Warning, may be harmful if inhaled or absorbed.
- 1** Caution, may be irritating.
- 0** No unusual hazard.
- No information available. Avoid skin contact or inhalation..

The compatibility of the glove films with each chemical is color coded as follows:

- P** POOR chemical resistance
- F** FAIR chemical resistance
- G - E** GOOD to EXCELLENT chemical resistance

Use of this application indicates agreement with the [\[Terms of Use\]](#) statement.

Information is based upon published data. gloves have not been individually tested against these chemicals. Variability in material thickness, chemical concentration, temperature, and length of exposure to chemicals will affect specific performance.

Note: This is an internet application which dynamically generates results from a database. Use of the information provided by this application indicates you have read and accepted the following:

CHEMICAL RESISTANCE AND BARRIER GUIDE

SAFESKIN's Nitrile, Natural Rubber Latex and Polyvinyl Chloride (PVC) gloves are thin gauge disposable products designed to provide barrier protection and tactile sensitivity to the wearer. Our gloves are not designed for applications involving prolonged, direct exposure to chemicals. Our intent in providing this chemical compatibility information is to provide a guideline for use of our gloves in applications where incidental splash exposure to various chemicals may occur.

Harsh Chemicals

Caution

Although good quality nitrile and latex gloves provide an excellent biological barrier, they are not intended for applications involving prolonged direct exposure to harsh chemicals where heavy-duty industrial gloves are required. Variability in material thickness and glove integrity, chemical concentration, temperature and length of exposure to chemicals will affect specific performance.

The chemical compatibility information in this application is intended to provide general information about the reaction of Nitrile, Natural Rubber Latex and Polyvinyl Chloride glove films to the commonly used chemicals listed.

The ratings scale takes into consideration three primary factors:

1. the ability of the chemical to permeate (pass through) the glove film;
2. the ability of the chemical to degrade (break down) the physical structure of the glove film;
3. the risk that contact exposure to the chemical poses to the glove wearer.

SAFESKIN recommends that you USE CAUTION AT ALL TIMES.

- Verify that your gloves are compatible with your specific applications, processes and materials before using.
- When performing processes where gloves will receive prolonged, direct exposure to chemicals, use a glove specifically designed for chemical handling.
- Avoid the risk of exposing your workers, products and facilities to chemical cross-contamination: immediately dispose of gloves after contact with chemicals.
- Double gloving provides additional barrier protection and allows the outer glove to be disposed of after contact with chemicals without exposing the hand.
- Do not use powdered gloves with substances known to pose inhalant hazards.
- If you have any questions about using SAFESKIN gloves or the information provided by this application, please contact our Product Applications Department at 877-SAFESKIN.

Diesel Buses

I. Why we are concerned about diesel buses: According to studies conducted by the Center for Disease Control, Maine has one of the highest incidences of asthma in the nation. A March 2006 report by the Asthma Regional Council of New England indicates lifetime asthma rates for children in Maine are 14.6 percent. Diesel exhaust is made up of small particles that can penetrate deep into the lungs. Prolonged exposure to diesel exhaust can cause respiratory problems such as asthma, bronchitis, lung damage and even premature death. Diesel exhaust is also a likely human carcinogen.

Scientifically compiled environmental and health data has shown that exposure to diesel exhaust fumes inside a school bus presents a potential health risk to both children and drivers. In one study fine particulate concentrations measured on buses were five to ten times higher than background levels. Children are more sensitive to air pollution than healthy adults because their lungs are not fully developed and they have higher rates of respiration, therefore higher levels of exposure, than adults. This exposure can lead to or aggravate respiratory problems.

II. State laws and rules that affect diesel bus emissions at schools: There are no state or federal laws or regulations that require schools to take action when it comes to diesel emissions. All activities noted below are considered best management practices and are strongly recommended.

The federal Environmental Protection Agency (EPA) is taking two steps to reduce the pollution associated with diesel engines. First, as of October 2006 retail stations and fleet fueling locations will be required to sell ultra low sulfur diesel fuel. This will reduce particulate matter (PM) between 5 and 10 percent. Second, new emission standards for heavy-duty highway engines and vehicles will take effect for model year 2007. New engines will be equipped with a high-efficiency catalytic exhaust emission control device or a comparable technology. As a result of these actions, it is estimated that each new truck or bus will run more than 90% cleaner than current models.

III. Best management practices and recommendations

There are several actions a school may take now to reduce exposure to diesel pollution, including:

- **No-Idling policy**

This is a no-cost solution to diesel emissions. In fact it will save money! Typical school bus engines burn about half a gallon of fuel per hour when idling. When starting first thing in the day, it is only necessary to run newer engines 3-5 minutes before driving. In addition to wasting fuel, extended idling causes engine wear and tear. Schools should consider installing block heaters or a fuel fired auxiliary heater for winter months to help warm the engines quickly. School bus engines should be turned off when buses arrive at their destinations - particularly on school grounds – and drivers should be provided a space inside the school to wait.

- **School Bus Maintenance**

A smoking bus is a sign of a poorly maintained and inefficient engine. Routine bus maintenance can improve performance and reduce emissions. The school bus tool kit developed by the New England Asthma Regional is a great resource for maintenance tips and other diesel emission reduction strategies.

<http://www.asthmaregionalcouncil.org/about/BusToolkit.htm>).

- **Modify Bus Routes**

Routing software is a great planning tool for shortening bus routes, saving fuel and minimizing the time students spend on the bus and their exposure to diesel emissions.

- **Emission Control Retrofits**

Adding advanced emission control devices, such as a diesel oxidation catalyst or diesel particulate matter filter, to existing buses is a cost effective alternative to purchasing new buses. See the chart below for more information. Also see US EPA's [Voluntary Diesel Retrofit Program](http://www.epa.gov/otaq/retrofit/index.htm) (<http://www.epa.gov/otaq/retrofit/index.htm>) and [Verified Technology List](http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm) (<http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm>) for information on retrofits.

- **Other Fuel Options**

Ultra-low sulfur diesel (ULSD), blends of biodiesel up to 20% (B20), Compressed Natural Gas (CNG) and propane (LPG) are cleaner fuel options that reduce school bus emissions.

- **Purchasing Cleaner Buses**

Accelerate the school bus fleet turnover by replacing the older, dirtier buses with school buses equipped with the 2007 and subsequent model year advanced pollution control technology.

- **Honor Roll of Schools with No-Idling Guidelines**

Send in your school bus no-idling guideline to have your school district listed on DEP's **Honor Roll of Schools**, which recognizes your school's commitment to a healthier environment for our children. Mail to the attention of Lynne Cayting, Maine DEP, #17 State House Station, Augusta, ME 04333.

IV. Resources

Retrofit equipment information: www.epa.gov/otaq/retrofit/retroverifiedlist.htm

Alternative fuels information: <http://www.epa.gov/otaq/fuels.htm>

Federal rules and related documents: <http://www.epa.gov/otaq/diesel.htm>

Funding opportunities and strategies to reduce diesel emissions: www.northeastdiesel.org

For questions about Maine's School Bus Program, including potential grants for retrofits,

- contact Lynne Cayting at Maine DEP, 287-2437 or by email, Lynne.A.Cayting@maine.gov or
- Check the DEP web page, <http://www.maine.gov/dep/air/school/>

For excellent information on asthma and concerns about diesel emissions please see the web site of the Asthma Regional Council at

http://www.asthmaregionalcouncil.org/about/focus_diesel.html



Asthma Regional Council

Options for Reducing Pollution from Existing School Buses

Comparing Retrofit Technologies and Cleaner Fuels Options to Traditional Diesel School Buses and Fuels

Clean Fuel / Retrofit Options	Engine	Percent Reduction in Particulate Matter (PM)	Percent Change in Nitrogen Oxides (NO _x) ¹	Percent Reduction in Carbon Dioxide (CO ₂)	Approximate Cost of Technology ²	Fuel Requirements / Costs ²
Ultra-Low Sulfur Diesel (ULSD) (15 parts per million sulfur)	New or Used Diesel Engine (best if used with a PM filter - see below)	-5 to -9% also, enables the PM filter technology to work	N/A	N/A	N/A	8 to 25 cents per gallon more than regular diesel (June 2006, ULSD will be required nationwide)
Diesel or ULSD / Oxidation Catalyst	New or Used Diesel Engine	-20 to -30% also reduces hydrocarbons by 50% and carbon monoxide by 40%	N/A	N/A	\$1,500 to \$2,500 (1-2 hour installation)	none, can be used with regular diesel, although use of ULSD will optimize performance
ULSD/ Particulate Matter Filter (PM filter)	New or Used Diesel Engine – 1995 or newer	-60 to -90% also reduces hydrocarbons and carbon monoxide by 60 to 90%	N/A	N/A	\$5,000 to \$9,000 (higher cost filters address exhaust temperature issues) (3-6 hour installation)	ULSD
Biodiesel (B20, B100) (B20: 20% biodiesel, 80% diesel) (B100:100% biodiesel)	New or Used Diesel Engine	B20: -10% also, B20 reduces hydrocarbons by 20% and carbon monoxide by 10% B100: -40%	Biodiesel increases emissions of NO _x B20: +2% B100: +10%	Biodiesel has a closed carbon cycle as it is made from plants which absorb CO ₂ B20: -15% ³ B-100: -78% ³	N/A	B20 – 15 to 30 cents per gallon more than regular diesel ⁴ B100 – 75 cents to \$1.50 per gallon more than regular diesel ⁴ (B-100 may not be an option for cold climates)
Compressed Natural Gas (CNG)	New CNG Engine	-70 to -90% should use catalyst technology to reduce ultra fine PM, formaldehyde, and methane – otherwise, methane and aldehydes will be much higher	case studies ⁵ suggest about 60% reduction	case studies ⁵ suggest about 30% reduction this decrease may be more than offset by the increase in methane emissions (which have a global warming potential 21 times that of CO ₂)	\$30,000 more than for a Type D diesel bus significant additional cost to create special maintenance (new or rehab) and refueling facilities	cost of CNG fuel similar to regular diesel, but special re-fueling and maintenance facilities are required

¹NO_x includes all oxides of nitrogen such as NO and NO₂

²Cost estimates based on anecdotal data from a variety of pilot projects

³From the National Biodiesel Board – based on a 1998 biodiesel lifecycle study, jointly sponsored by the US Department of Energy and the US Department of Agriculture. (Note: because the carbon dioxide released into the atmosphere when biodiesel is burned is recycled by growing plants, which are later processed into fuel, biodiesel has what is called a closed carbon cycle)

⁴From the National Biodiesel Board

⁵see SAE Paper 2002-01-0433 – Year-Long Evaluation of Trucks and Buses Equipped with Passive Diesel

Sample School Bus No-Idling Policy

Applicability: This policy applies to the operation of every diesel-powered school bus.

Rationale: According to the Environmental Protection Agency (EPA), exposure to diesel exhaust, even at low levels, is a serious health hazard and can cause respiratory problems such as asthma and bronchitis, lung damage and increases the risk of lung cancer. Diesel emissions are well documented asthma triggers and may increase the severity of asthma attacks. Asthma is currently the number one cause of missed school days for American children with more than 1 in 10 children in New England reporting asthma attacks. The Maine Departments of Environmental Protection and Education actively support this initiative.

Our school district agrees to undertake the following steps immediately:

- School bus drivers will shut off bus engines immediately upon reaching destination, and buses will not idle while waiting for passengers in the school yard. This rule applies to daily route travel, field trips, and transportation to and from athletic events. School buses will not be restarted until they are ready to depart and there is a clear path to exit the pick-up area.
- School bus companies and drivers will limit idling time during early morning warm-up to the manufacturer's recommendation-generally 3-5 minutes in all but the coldest weather. Below are recommended guidelines, however, in warmer months idling is not necessary.

If the outside temperature is:	Above 20 degrees F:	5 minute maximum
	Between -10 and 20 degrees F:	15 minute maximum
	Below -10 degrees F:	as necessary
- Schools should provide an indoor waiting space for drivers who arrive early and need to keep warm. This reduces the need for bus idling.
- Transportation operations staff should evaluate and shorten bus routes whenever possible, particularly for buses with the least effective emissions control technologies (often older buses). Districts should review bus purchasing schedules and routing to further improve emission reductions.
- School district bus drivers will complete a "no idling" training session. All bus drivers should receive a copy of this policy or equivalent educational materials at the beginning of every school year.
- The construction of new schools should incorporate measures to minimize children's exposure to diesel emissions. All schools should design bus parking zones to limit diesel exhaust inside the bus and in the school. Avoid proximity to school air intake vents, and park buses at a diagonal to prevent front-to-back passing of emissions and reduce diesel fumes in each bus. Direction of prevailing winds should be considered.
- To reduce engine warm-up time, avoid starting difficulties, and help defrost windows, consider using block heaters that plug into electrical outlets or inline auxiliary fuel fired heaters.
- If a bus needs an engine to run flashing lights during longer duration loading and unloading, maintenance staff should install a heavy duty battery system, an extra battery and/or change the circuit configurations to power lights by battery without running the engine.
- Exceptions to this policy are granted only when running the engine is necessary to operate required safety equipment or to maintain a safe environment for students with special health needs.

Signature of Individual Authorizing Implementation: _____

School District: _____ **Date Accepted:** _____

Floor Drains and Underground Injection Control Wells

I. Why we are concerned about floor drains and injection wells: Floor drains are collection points that remove wash water and other liquid wastes from a work area and carry them away through pipes or ditches for disposal. Every year Maine citizens improperly dispose of thousands of gallons of pollutants through floor drains -- a practice that can contaminate soil and ground water and threaten drinking water supplies. Schools are likely to have floor drains in their bus garages, kitchens, locker rooms, bathrooms, and sometimes in their science rooms. About half of Maine schools are on their own drinking water supply, making it critical to keep high risk pollutants out of floor drains, septic systems and local ground water. In addition to its use as drinking water, ground water feeds our lakes and recharges our streams and rivers, particularly during dry periods. Preventing ground water contamination is vital to protecting the drinking water of Maine citizens and to maintaining the quality of our lakes, streams and rivers.

II. State and federal laws and rules that affect floor drains and injection wells

- The Department of Environmental Protection is responsible for licensing or otherwise regulating the disposal of non-domestic wastewater in Maine to a water of the state (i.e., surface and ground water)(Title 38m MRSA §413). The subsurface wastewater discharge program is referred to as the Underground Injection Control (UIC) Program in Maine. The UIC Program, authorized by the Safe Drinking Water Act, requires owners of some types of subsurface wastewater disposal systems to register their systems with the Department of Environmental Protection and/or eliminate the floor drain.

If a school has a floor drain that receives snowmelt and wash-water from motor vehicles, or filter backwash from swimming pools, the floor drain is regulated as a Class V injection well. Schools are required to notify DEP if they have a Class V well on the notification form included at the end of this chapter.

Many Maine schools are also on their own septic system. No license is required for the installation, operation or maintenance of a subsurface wastewater disposal system, such as a septic system, if:

1. the discharges to the system are of similar quality (i.e. constituents and strength), to that of domestic wastewater and;
2. the system has been designed and installed in conformance with the plumbing code.

Simply stated, those schools on their own septic system, if designed and built according to the plumbing code, do not need to register their system with the DEP. Many Maine schools are hooked into their town's publicly owned treatment plant and therefore would not need to register their domestic wastewater discharge with the DEP either.

- The Department of Health and Human Services, Division of Health Engineering (DHHS) administers the wastewater and plumbing code. Subsurface wastewater disposal for

domestic systems must be built according to the code (144A CMR 241). If the proposed septic system is in conformance with the plumbing code, no license from DHHS is required.

- Local Plumbing Inspector must approve and inspect a new septic system. Those schools in the unorganized territories and without a local plumbing inspector need to contact DHHS directly.

III. Actions needed to be in compliance with the laws and rules

Class V Underground Injection Control (UIC) Wells

An injection well is any bored, drilled or driven shaft, or dug hole whose depth is greater than its largest surface dimension; an improved sinkhole; or a subsurface distribution system used to discharge fluids underground. The UIC Program defines six categories or "classes" of injection wells based on function, construction, and operating features. Schools that have floor drains as described below have a Class V well.

Class V wells inject non-hazardous fluids into or above an aquifer. They are typically shallow, on-site subsurface disposal systems, such as floor drains that discharge into dry wells, septic systems, leach fields, and similar types of drainage systems. When properly designed and operated, Class V wells should not endanger ground water. Examples of Class V wells include floor drains that receive non-hazardous wastewater from:

- manual car washes;
- snowmelt from cars and trucks;
- non-contact cooling water; and
- filter backwash from swimming pools

How are Class V injection wells regulated?

Most Class V wells, including all those listed above, are authorized by rule. An owner or operator of a Class V injection well who registers the well with the DEP can discharge to that well as long as the discharge activity does not endanger ground water. (See Registration Form on page 73). Finally, two types of Class V wells -- motor vehicle waste disposal wells (that might receive vehicle fluids due to maintenance activities) and large-capacity cesspools, are prohibited by state and federal law.

Please send closure and/or pre-closure notification and registration form to:
Underground Injection Control Program
Maine Dept. of Environmental Protection
Bureau of Land and Water Quality
17 State House Station
Augusta, ME 04333-0017

Additional Information

If your school has floor drains, here are four steps to help you evaluate their risk and to stay in compliance with DEP rules.

STEP 1: Find out where your floor drains go.

Do you know where they go? If you are unsure where your floor drains go, check the building's blueprint or speak with your local code enforcement officer about conducting a dye test. Identifying where your floor drains are connected is a vital first step. **Floor drains connected to a municipal sewer system are the DEP-preferred connection option.** If your floor drains are connected to a municipal sewer system, make sure your local sewer district knows what types of liquid wastes could enter your floor drains. Your local sewer district may require you make an effort to keep some types of pollutants from entering the drains, possibly by developing a spill prevention and containment plan or installing an oil/water separator.

Not everyone has access to a municipal sewer system. Without access to a municipal sewer, acceptable connection options are limited by the types and amounts of liquid wastes potentially flowing to your floor drains.

STEP 2: Know what goes down your floor drains.

Is that just soapy wash water from your school vehicles or does it contain gasoline, oils and cleaning solvents? Are chemicals lost from shop areas? Knowing what goes down your floor drains may give you a little headache now, but it's better than the BIG financial and public relations headache that could await you if liquid wastes pollute local drinking water. Consider not only what you *know* goes down floor drains but also what *might* drip, leak, spill or wash into them.

Generally, wastewater can be divided into two broad categories based on its potential to contaminate ground water:

- **LOW RISK** - This is wastewater that a normal household would produce, including animal and vegetable matter, soap and diluted domestic-use cleaning solutions. Wastewater from schools is considered low risk as long as both the ingredients and their concentrations are similar to household wastewater. Low risk wastewater also includes wash water solely from the exterior of cars and light trucks, snowmelt from vehicles, and most non-contact cooling water.
- **HIGH RISK** - This wastewater has ingredients, in types or concentrations, which you would not normally find in household wastewater. This category includes wastewater that contains any pollutants such as those listed below.

Activity	Potential Pollutants to Floor Drains
Engine and equipment repair	Various fuels, oils, degreasers, hydraulic fluids, cleaning solvents, antifreeze, metal waste
Car, bus and truck washes	Oil- and grease-contaminated wash water
Art activities, printing and silk screening operations	Paints, glazes, Inks, dyes, cleaning solvents
Photo processing	Spent film developing solutions containing silver, high ammonia wastewater
Science experiments	Various hazardous and non household type chemicals
Pest control activities	Pesticides, fertilizers and pesticide-contaminated wash water

Note that it is illegal to knowingly dispose of hazardous chemicals down the drain. This section pertains to accidental spills that might reach a floor drain.

STEP 3: Make the right floor drain connection.

Low Risk Discharges: If you have low risk liquid waste entering your floor drains, here are your options where no municipal sewer is available. If municipal sewer service is available, the DEP strongly encourages you to contact your local sewer district about connecting the floor drains to the system before pursuing one of the options given below.

Low Risk Option 1: Connect your floor drains to an approved subsurface disposal system. Floor drains may be connected to a subsurface wastewater disposal system designed and installed in accordance with the *Maine Subsurface Wastewater Disposal Rules* (State Plumbing Code) if the following criteria are met:

- the disposal area is properly sized to handle the potential flow from the drains;
- there is no significant potential for pollutants to drip, spill or wash into the floor drains; and
- the floor drain is necessary for the disposal of wash water or other liquid waste similar to household wastewater.

Low Risk Option 2: Connect your floor drains to a pipe which discharges on top of the ground. Floor drains may be piped to the top of the ground if these criteria are met:

- the pipe must discharge on top of the ground in an area that is accessible for inspection;
- the pipe must not discharge directly into a ditch, stream, wetland, pond or other surface water body;
- there is no significant potential for pollutants to drip, leak, spill or wash into the floor drains; and
- the volume of liquid waste does not exceed 60 gallons per day, and proper erosion control methods are used for discharge volumes over 30 gallons per day.

DEP recommends the installation of an oil/water separator if snow melt or wastewater is generated from vehicles or other equipment which runs on gasoline or diesel. However, oil/water separators work best when they receive **only** oils and water. Water-soluble solvents and some gasoline additives will pass through an oil/water separator and be discharged with the water. Some detergents will also emulsify the oil and allow it to pass through the separator as well. Finally, oil/water separators must be inspected and cleaned routinely, and the waste generated from cleaning the separator must be disposed of in an approved manner (see **HIGH RISK**, Option 2 discussion).

High Risk Discharges: If you have high risk liquid waste entering your floor drains or if the potential exists that it could, you have the following options in areas where no municipal sewer is available. Again, if municipal sewer service is available, the DEP strongly encourages you to contact your local sewer district about connecting the floor drains to the system before pursuing one of these options.

High Risk Option 1: Seal the floor drains. Ask yourself: Are the floor drains really needed? Floor drains should be avoided or eliminated where possible. A bag of cement, a little water, a trowel -- and you're on your way.

High Risk Option 2: Connect to a holding tank. A holding tank is a water-tight vessel, designed and constructed to facilitate ultimate disposal of wastewater at another site. Holding tank wastewater must be analyzed prior to disposal and the contents of the holding tank disposed of as determined by the laboratory analysis. Proper disposal may mean having the tank contents trucked away as hazardous or special waste by a licensed transporter or, after getting approval from the sanitary district, shipped to a licensed wastewater treatment plant.

High Risk Option 3: Separate the facility into two areas by building a berm. All activities which could create high risk liquid waste would be performed in an area where floor drains are sealed or connected to a holding tank. An example would be a bus maintenance garage. The other area -- the low risk wastewater area -- could be served by floor drains providing certain criteria described above are strictly met. This is appropriate for many fleet maintenance buildings -- the high risk wastewater area is used for changing fluids and repair work and the low risk wastewater area is used for vehicle washing or catching melt-water prior to servicing. Appropriate activities in each area need to be strictly observed and you should have a spill prevention, control and clean-up plan in case high risk pollutants accidentally make their way into the low risk area.

High Risk Option 4: Obtain a waste discharge license for subsurface disposal of wastewater. School activities that generate a significant volume of high risk wastewater for which the above options are not practical must obtain a waste discharge license from the DEP for the installation, operation and maintenance of a subsurface wastewater disposal system. This would entail some very unusual circumstances.

STEP 4: Notify the DEP.

Whether you seal your floor drains with cement, connect them to a holding tank or chose one of the other options mentioned above, you must notify the DEP in writing about your action. The DEP uses information about floor drains to assess potential threats to ground water quality. The steps you take to eliminate or modify risky floor drain practices should be noted by the DEP!

The UIC Program also requires you to notify the DEP thirty (30) days prior to closing floor drains in motor vehicle repair areas.

IV. Resources

For more information on floor drains, holding tanks, the UIC program or registering your Class V well contact the DEP Division of Water Resource Regulation, phone (207) 287-3901, fax: (207) 287-7826, email gregg.wood@Maine.gov or Erich.D.Kluck@maine.gov or write to the DEP at 17 State House Station, Augusta, ME 04333.

Disposal of domestic wastewater (other than by a municipality) is regulated by the Department of Human Services, [Wastewater and Plumbing Control Program](#) and implemented at the municipal level by local code enforcement officers and site evaluators. For information about the on-site subsurface disposal of domestic wastewater, contact Program Manager Russell Martin by e-mail at russell.martin@Maine.gov or by telephone at (207)287-5689.

State of Maine
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Land and Water Quality
17 State House Station, Augusta, ME 04333-0017
Telephone: (207)287-3901 E-mail: Erich.D.Kluck@maine.gov

CLASS V UNDERGROUND INJECTION CONTROL (UIC) WELL REGISTRATION

Facility Name or Well Identifying Information

Facility Name or Well Identifier: _____

Town or City: _____ County: _____

Physical Location: (street, road, etc. *Please provide map, latitude/longitude or UTM coordinates, if available*) _____

Owner/Operator Information

Owner/Operator Name: _____

Business/Agency: _____

Mailing Address: _____

Daytime Telephone Number: (_____) _____

Number and Type Of Injection Well(s)

- | | |
|--|--|
| <input type="checkbox"/> Motor Vehicle Waste Disposal Well
<input type="checkbox"/> Industrial Well
<input type="checkbox"/> Commercial Car Wash (engine and undercarriage washing)
<input type="checkbox"/> Large-capacity Cesspool
<input type="checkbox"/> Large-capacity Septic System
<input type="checkbox"/> Sewage Treatment Effluent Well
<input type="checkbox"/> Drainage Well
<input type="checkbox"/> Agricultural Drainage Well
<input type="checkbox"/> Food Processing Wastewater Well | <input type="checkbox"/> Beneficial Use Well
<input type="checkbox"/> Aquifer Remediation Well
<input type="checkbox"/> Salt Water Intrusion Well
<input type="checkbox"/> Fluid Return Well
<input type="checkbox"/> Experimental Technology Well
<input type="checkbox"/> Mine Backfill and Drainage Well
<input type="checkbox"/> In-situ Recovery and Solution Mining Well
<input type="checkbox"/> Other Industrial Well
<input type="checkbox"/> Manual Car Wash
<input type="checkbox"/> Stormwater Runoff Well
<input type="checkbox"/> Non-contact Cooling Water Well |
|--|--|

Discharge Information

Indicate the type/characteristics of the discharge, average flow (gallons/day) and well construction information (drywell, septic tank, drainfield/leachfield, etc.) for each injection well listed above. *Attach additional sheets or supplemental material, as needed.*

Well Identifier	Characteristics of Discharge	Average Flow (gallons/day)	Well Construction Information

Are the injection well(s) listed above located in a wellhead or source water protection area of a public water supply? ☐ Yes ☐ No *If more than one injection well is listed, please indicate which wells are located in the wellhead or source water protection area.*

Distance to nearest water supply well: _____ feet Type of well: ☐ Public ☐ Private

Predominant soil type:

- | | |
|--|--|
| <input type="checkbox"/> Sand and gravel soils
<input type="checkbox"/> Clay soils
<input type="checkbox"/> Shallow to bedrock soils | <input type="checkbox"/> Don't know
<input type="checkbox"/> Other (Please explain) _____ |
|--|--|

Name of Preparer: _____ **Date:** _____

Return form prior to well operation to Maine DEP at address above.

Fuel Storage

I. Why we are concerned about fuel storage

Schools typically store and handle fuel for heating buildings and fueling school vehicles and buses. Improper handling and storage of fuel can threaten groundwater (often a source of drinking water) and other natural resources, and create public safety hazards. It is important to store and handle fuel in order to minimize the likelihood of a leak or spill, and to be properly prepared to respond if a leak or spill does occur.

II. Applicable state and federal rules and statutes

A. Aboveground oil storage tanks (AST) and piping:

- The US Environmental Protection Agency (EPA) administers 40 Code of Federal Regulations (CFR) 112 that require Spill Prevention Control and Countermeasures (SPCC) plans for facilities that store “oil” in aboveground tanks where the total aboveground oil storage capacity exceeds 1,320 gallons. “Oil” is very broadly defined and includes products such as gasoline, kerosene, diesel, lubricants, waste oil, hydraulic oil and heating oil. All oil storage containers on site with a capacity of 55 gallons (a standard barrel) or more are counted towards the total aboveground storage capacity of the facility.

An SPCC plan specifies measures and design features of the facility to prevent oil spills. It also specifies procedures to be followed in the event an oil spill does occur.

- The State Fire Marshal’s Office requires permits for most aboveground tanks that are used for oil storage i.e., *not* directly connected to a burner or furnace. A typical oil storage tank would be a motor fleet fuel storage tank. (State Fire Marshal’s Office Chapter 34 Rules and Regulations for Flammable and Combustible Liquids, August, 2004.)
- The Oil & Solid Fuel Board regulates an aboveground tank if it is connected directly to a burner or furnace, in which case it is considered a supply tank. (Oil & Solid Fuel Board, Chapter 9, Installation of Oil Burning Equipment.)
- The Maine Department of Environmental Protection (DEP) requires notification if an AST contained within a dike or berm and is located within 300 feet of a surface water or draining to a surface water (38 MRSA § 413). Discharge of stormwater from a containment area must be treated through an oil-water separator prior to discharge to surface water. A license may be required by DEP’s Division of Water Resource Regulation.
- The State Fire Marshal’s Office and the Oil & Solid Fuel Board regulates aboveground petroleum piping. See rule references above. If piping is underground, it is regulated by the Maine DEP. (See below.)

- Organized towns: Schools should also contact their town office or Code Enforcement Officer to see what approvals, if any, are needed when it comes to installation of above ground storage or supply tanks. Some jurisdictions prohibit ASTs altogether.
- Unorganized territories: Contact the Maine Dept. of Conservation, Land Use Regulation Commission (LURC). A permit for an aboveground oil tank installation would be required under LURC regulations.

B. Underground Oil Storage Tanks (UST) and Piping:

- The Maine DEP regulates underground oil storage tanks and underground piping. (Chapter 691, the Rules for Underground Storage Facilities). The Chapter establishes standards for installation, operation and closure of underground oil storage facilities, and specifies requirements for reporting and clean-up of oil discharges at these facilities. These rules require registration of underground tank facilities and annual inspections of such facilities by a Certified Tank Installer. Chapter 691 also applies to any underground piping associated with an aboveground facility.
- Organized towns: Schools should also contact their town office or Code Enforcement Officer to see what approvals, if any, are needed when it comes to installation of underground storage or supply tanks.
- Unorganized territories: Contact the Maine Dept. of Conservation, Land Use Regulation Commission (LURC). A permit for an underground oil tank installation would be required under LURC regulations.

C. Other Requirements

- The Maine Emergency Management Agency, under the federal Emergency Planning and Community Right-to-Know Act, requires annual reporting of inventories when storing 10,000 pounds (approximately 1500 gallons) or more of petroleum products.
- Spill Reporting: Any oil spill that reaches, or threatens to reach a surface water must be reported to the National Response Center at (800)424-8802. Any size oil spill at an aboveground tank facility should be reported to the Maine DEP at (800)482-0777 within 2 hours in order to avoid punitive fines for causing or failing to report a spill. Spills at an underground tank facility should be reported to the Maine DEP in a similar manner except that certain spills less than 10 gallons in size under certain circumstances at an underground tank facility may be exempt for reporting.

III. Actions needed to be in compliance with the laws and rules

For more details on the components of an SPCC plan please see the DEP's SPCC Plan Guidance Document and the Model SPCC Plans on the DEP's SPCC web page <http://www.maine.gov/dep/rwm/spcc/index.htm> . Additional information is also available at EPA's Oil Program home page at: <http://www.epa.gov/oilspill/nprm.htm>

EPA SPCC plan requirements for aboveground oil storage tank(s), (ASTs) *Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.*

Requirement	Action	Yes	No
SPCC Plans (SPCC Rules, 40 CFR Part 112.7)	Is the total facility aboveground oil storage capacity > 1320 gallons (all containers 55 gallons or bigger count towards the facility total)		
	If > 1320 gals., is there a current SPCC plan in place?		
	Is a current SPCC plan certified by a Professional Engineer and the appropriate school official?		
	Are technical amendments to the plan also certified by a Professional Engineer?		
	Is the SPCC plan implemented?		
	Does the SPCC plan include the following? <ul style="list-style-type: none"> • Facility description and diagram of the facility layout; • Type of product and storage capacity; • Contact list and phone numbers of the response coordinator and appropriate governmental agencies in case of a spill; • Reporting procedures; • Spill prevention measures; • Spill response measures; • Employee training program; • Description of waste disposal procedures; • Prediction of a likely spill trajectory; • Description of containment and/or diversionary structures or equipment; • Description of other practices and commitments if containment and/or diversions aren't practical; • Discussion of all spill prevention and control measures for the facility; • A "Substantial Harm Checklist"; • Description of facility inspections (routine and periodic);and • Physical security features and measures. 		
	Does the owner review the SPCC plan every 5 years ?		
	Is the plan amended when there is a facility change that would affect the plan?		

Spills and Spill Reporting	Are all spills reported within 2 hours to DEP? 1-800-482-0777.		
	Are spills promptly cleaned up and removed?		
	If the spill reaches shorelines or the water, is the National Response Center called? 1-800-452-8802		
	Is a spill report submitted to EPA Region I within 60 days when a spill is >1,000gals or 2 spills >42 gals. within a 12 month period?		

Underground Storage Tanks (USTs) Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.

Requirement	Action	Yes	No
Inspections	Is your UST and/or piping inspected annually?		
	Is the inspection done by a licensed inspector or installer?		
	Is the inspection done by July 1 of each year?		
	Is the inspection report mailed to DEP?		
	Are problems identified during inspection promptly corrected?		
Paperwork	Is the current UST certificate of registration available?		
(It is good to keep all paperwork in a 3 ring binder.)	Are the manufacturer's instructions for all leak detection equipment maintained and available?		
	Are all invoices or records from all repairs or upgrades maintained and available?		
	Are tank and piping operating instructions maintained and available?		
	Is the most recent annual inspection report available?		
	Are the last 12 months of leak detection records available and in chronological order?		
	Are all spill notification forms on record and available?		
Repairs and Upgrades	Is DEP notified ahead of time of a repair or upgrade?		
	Is a Certified UST installer always hired to do the work?		
	Is DEP notified when the work is complete?		
	Is the tank or piping tested after the work is complete?		
Installations	Is DEP notified at least 10 business days in advance of a new tank or piping installation?		
	Is a Certified UST installer always hired to do the work?		
	Is DEP notified when the work is complete?		
Maintenance	Do employees understand how to perform simple routine maintenance?		
	Are maintenance activities consistently performed?		
	Are records of maintenance activities kept?		
	In newer tanks (installed after 9/16/91) is the interstitial space of the tank and piping checked monthly?		
	In older tanks (installed before 9/16/91) is the interstitial space of the tank and piping checked or groundwater monitoring done monthly?		
Removals (Removals can be dangerous. Hire professionals.)	Is DEP notified at least 30 days in advance of a tank and/or piping removal?		
	Is a licensed professional hired to do the removal?		
	Is DEP notified when the work is complete?		
Spills and Leaks	Are all surface spills >10 gal and/or to a pervious surface, and all underground leaks reported immediately to DEP? 1-800-482-0777		
	Are written spill logs that detail actions taken kept for at least 3 years?		
Additional Notes	Are all fuel deliveries monitored to prevent overfills?		
	Are all alarms and failed tests responded to immediately?		
	Are training records kept?		

Aboveground Tanks Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.

Requirement	Action	Yes	No
Inspections and Monitoring	Are tank exteriors inspected visually on a monthly basis?		
	Are tanks inspected on a regular basis in accordance with industry standards?		
	Are written records kept for at least 3 years of all inspections and tests? (<i>recommendation - keep forever</i>)		
	Are all drain valves for the tank containment areas normally kept closed?		
	Is a log kept of when water is discharged or removed from a containment area?		
	If there is a tank dike or berm within 300' of water, is an oil-water separator used?		
	Is a daily inventory and reconciliation done?		
	Are level gauges tested regularly for proper operation?		
AST <u>storage</u> tanks	Is there a permit from the State Fire Marshal's office on record? (required in most cases)		
	Is the tank certified to meet applicable provisions of NFPA 30 and NFPA 30-A ?		
AST <u>supply</u> tanks	Was the installation done by a licensed oil burner technician? (Oil & Solid Fuel Board, NFPA 31)		
	Does the tank installation conform to the detailed checklist in the brochure titled "Is Your Tank in Shape?"		
Overfill Protection	Does the tank have overfill protection in the form of an alarm, visible level gauge or automatic shutoff device?		
	Do double walled tanks without other containment have redundant overfill protection?		
	Do double walled tanks without other containment have both an audible/visual high level alarm and an automatic shutoff device?		
Employee Training	Are all employees who are involved with petroleum handling/storage operations trained initially upon employment and annually thereafter?		
	Are training logs kept?		

IV. Best Management Practices

Best management practices for petroleum storage and handling are, for the most part, incorporated into the regulatory requirements listed above. However, the following list is a summary of some basic best management practices applicable to all petroleum storage and handling activities, including those that may not be subject to regulatory requirements:

- Keep a spill response kit on site in a convenient location to clean up minor spills, drips & leaks. Keep all fuel equipment, fuel transfer areas and dispensing areas clean.
- Designate one person to routinely inspect all petroleum storage tanks, piping, dispensers, etc., and promptly repair any defective or leaking equipment.

- Report petroleum spills, leaks and discharges in accordance with state and federal regulations. Maintain a spill contact list and standard spill reporting form to assist facility personnel in reporting a spill. Post the spill contact list near all telephones.
- Ensure that all personnel involved with operation of fuel storage and handling activities are trained in the proper operation of the fuel storage and handling equipment, are familiar with all alarm systems, and know how to respond to a spill.

V. Resources

Federal Regulations

- Federal SPCC regulations: 40 CFR Part 112, Oil Pollution Prevention and Response; Non-Transportation-Related Onshore and Offshore Facilities, Final Rule, U.S. Environmental Protection Agency, 67 Federal Register 137 (July 17, 2002)
<http://www.epa.gov/oilspill/pdfs/40cfr112.pdf>
- Revised Deadlines for complying with the federal SPCC regulation: 40 CFR Part 112, Oil Pollution Prevention and Response; Non-Transportation-Related Onshore and Offshore Facilities, Final Rule, U.S. Environmental Protection Agency, 69 Federal Register 154 (August 11, 2004) <http://www.epa.gov/oilspill/pdfs/fr081104.pdf>

State Statutes & Regulations

- Maine DEP SPCC Statute: 38 MRSA § 570-K
<http://janus.state.me.us/legis/statutes/38/title38sec570-K.html>
- Underground Tanks & Piping: Maine DEP, Chapter 691, Rules for Underground Oil Storage Facilities, March 14, 2004 <http://www.maine.gov/sos/cec/rules/06/096/096c691.doc>
- Aboveground Storage Tanks & Piping: State Fire Marshal's Office Chapter 34 Rules and Regulations for Flammable and Combustible Liquids, August, 2004
<ftp://ftp.maine.gov/pub/sos/cec/rcn/apa/16/219/219c034.doc>
- Aboveground Supply Tanks: Oil & Solid Fuel Board, Chapter 9, Installation of Oil Burning Equipment, <ftp://ftp.state.me.us/pub/sos/cec/rcn/apa/02/381/381c009.doc>

Spill Response

- Responding to Oil & Hazardous Materials Spills (Maine DEP)
www.maine.gov/dep/rwm/emergspillresp/cover.htm
- Maine DEP Statutes for Spills and Spill Reporting: 38 MRSA § 543
<http://janus.state.me.us/legis/statutes/38/title38sec543.html> and 38 MRSA § 550
<http://janus.state.me.us/legis/statutes/38/title38sec550.html>

Web Sites

- EPA SPCC web site <http://www.epa.gov/oilspill/spcc.htm>
- Maine DEP SPCC Web Site for Owners and Operators of Aboveground Oil Storage Facilities <http://www.maine.gov/dep/rwm/abovegroundtanks/index.htm>
- Maine DEP Web Site for Owners and Operators of Underground Oil Storage Facilities
<http://www.maine.gov/dep/rwm/ust/forownersandoperators.htm>

Publications

- Recommended Practices for Installation of Aboveground Storage Systems for Motor-Vehicle Fueling, PEI/RP200-03. Petroleum Equipment Institute. 2003. Petroleum Equipment Institute, P.O. Box 2380, Tulsa, OK 74101-2380; (918) 494-9696; www.pei.org.
- NFPA 30, Flammable and Combustible Liquids Code, 2003 Edition. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101; (800) 344-3555; www.nfpa.org.
- NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages, 2003 Edition. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101; (800) 344-3555; www.nfpa.org.
- Handbook of Storage Tank Systems: Codes, Regulations, and Designs. Wayne B. Geyer, Editor. 2000. Marcel Dekker, Inc., 270 Madison Ave., New York, NY 10016; (212) 696-9000; <http://www.dekker.com/index.jsp>
- Plain Talk on Motor Fuel Tanks & Plain Talk on Heating Oil Tanks, Operator's Guides to Maine's Underground Storage Tank Rules. Maine DEP, July, 2003
<http://www.maine.gov/dep/rwm/ust/plaintalk.htm>

Federal & State Agency Contacts

- Federal SPCC plan requirements: U.S. Environmental Protection Agency: Don Grant, EPA Region 1 (HBR), One Congress Street, Suite 1100, Boston, MA 02114-2023; telephone: (617) 918-1768; e-mail: grant.don@epa.gov
- State SPCC program: Maine Department of Environmental Protection: Sara L. Brusila, Environmental Specialist, Dept. of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; telephone: (207) 287-4804 or in-state toll free (800) 452-1942; e-mail: sara.brusila@maine.gov
- State permitting/registration for aboveground oil storage tanks and requirements for aboveground piping :Maine State Fire Marshal's Office: Stephen W. Dixon, Sr., Public Safety Inspector, State Fire Marshal's Office, 52 State House Station, Augusta, ME 04333-0052; telephone: (207) 626-3890; e-mail: Stephen.W.Dixon@maine.gov.
- State requirements for aboveground oil supply tanks: Oil & Solid Fuel Board: Paul Moody, 35 State House Station, Augusta, ME 04333; telephone: (207) 624-8608.
- State requirements for underground tanks and underground piping: Maine Department of Environmental Protection: Underground Tanks Unit, Dept. of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; telephone: (207) 287-2651 or in-state toll free (800) 452-1942.
- Local permitting requirements for aboveground tank facilities:
Organized towns: Contact the town office or Code Enforcement Officer.

Unorganized territories: Contact the Maine Dept. of Conservation, Land Use Regulation Commission, 22 State House Station, Augusta, ME 04333-0022; telephone: (207) 287-2631.

Hazard Communication

I. Why we are concerned about hazard communication

Schools usually have a wide variety of chemicals on hand. Custodial activities, art programs, vocational and science programs, bus garages, and pest management can require that employees handle many types of chemicals. The chemicals could be corrosive, toxic, reactive or explosive under certain circumstances and therefore must be managed with great care. Improper management can pose a very real health and safety risk for both employees and students. Therefore it is important to have a comprehensive hazard communication system in place.

II. State laws and rules that affect hazard communication

The Maine Department of Labor (DOL), Bureau of Labor Standards administers the *Occupational Safety and Health Act* (OSHA) of 1970 for public sector employees. (effective April 28, 1971. Public law 91-596, found in 29 CFR 1910). In order to ensure safe chemical handling in a school, information must be available about the identities and hazards of the chemicals within the facility. OSHA's Hazard Communication Standard (HCS) 29 CFR 1910.1200 requires the development and dissemination of such information.

III Actions needed to be in compliance with the hazard communication regulations

This checklist covers hazard communication regulations (29 CFR 1910.1200) issued by the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) and adopted by the Maine Department of Labor Standards. The regulations apply to all public employees, including schools. The purpose of these regulations is to ensure that health and safety information about hazardous chemicals is provided to affected employees.

Definitions of terms in bold type are provided at the end of the checklist.

These regulations are applicable to any work site where employees may be exposed to **hazardous chemicals** under normal conditions of use or in an emergency. The following chemicals or items are not covered by this regulation: hazardous waste, tobacco, tobacco products, wood, wood products, manufactured articles, foods, alcoholic beverages, drugs, cosmetics, consumer products, nuisance particulates, ionizing radiation, nonionizing radiation, and biological hazards.

DOL Hazard Communication Standard *Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.*

Requirement	Action	Yes	No
Hazard Communication Program (29 CFR 1910.1200(e)(1))	Has a written hazard communication program been developed, implemented, and maintained at your worksite?		
	Has a list of known hazardous chemicals at your facility been prepared?		
	Have methods been developed to inform employees of the hazards of non-routine tasks?		
(29 CFR 1910.1200(e)(2))	Are methods developed for communicating hazards to outside contractors or vendors who may be exposed to hazardous chemicals at your worksite?		
Labels [29 CFR 1910.1200(f)(1)] Labels must be affixed to containers of hazardous chemicals when shipped by a manufacturer or supplier. If there's no hazard warning label, you must obtain the missing information from the manufacturer or supplier.	Are all containers of hazardous chemicals in the workplace labeled, tagged, or marked with the following information? The identity of the hazardous chemical(s) The appropriate warnings The name and address of the chemical manufacturer, importer, or other responsible party		
[29 CFR 1910.1200(f)(8)]	Is removal or defacing of labels on incoming containers of hazardous chemicals prohibited?		
[29 CFR 1910.1200(f)(9)]	Are labels or other forms of warnings legible, in English, and prominently displayed?		
Material Safety Data Sheets [29 CFR 1910.1200(g)(1)]	Are MSDS on hand for each hazardous chemical used and identified on the hazardous chemical list?		
[29 CFR 1910.1200(g)(6)(iii)]	If a hazardous chemical has no material safety data sheet, are attempts made to obtain one from the chemical manufacturer or importer as soon as possible?		
[29 CFR 1910.1200(g)(10)]	Are material safety data sheets for the hazardous chemicals kept in the facility and made readily accessible to employees?		
Information and Training [29 CFR 1910.1200(h)(1)]	Is information and training on hazardous chemicals provided on initial assignment and whenever new physical or health hazards are introduced?		
[29 CFR 1910.1200(h)(2)]	Does the information provided include the requirements of this standard, as well as the following? *The operations at the worksite where hazardous chemicals are present * The location and availability of the written hazard communication program, including the list of hazardous chemicals and material safety data sheets		
[29 CFR 1910.1200(h)(3)]	Does the training provide the following information? 1.Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc) 2.The physical hazards and health hazards of the chemicals in the work area; 3. The measures employees can take to protect themselves from these hazards, including appropriate work practices, emergency procedures, and personal protective equipment. 4. The details of the hazard communication program, including explanations of the labeling system, material safety data sheets, and how employees can obtain and use the appropriate hazard information.		

Definitions:

Hazardous chemical: any chemical that is a **physical hazard** or a **health hazard**.

Health hazard: a chemical for which statistically significant evidence exists that acute or chronic health effects may occur in exposed employees. This evidence must be based on at least one study conducted in accordance with established scientific principles. The term includes chemicals that are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosive, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents that act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

Physical hazard: a chemical for which scientifically valid evidence exists that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, and oxidizer, pyrophoric, unstable (reactive) or water-reactive.

IV. Resources

Department of Labor, SafetyWorks! at <http://www.safetyworksmaine.com/> or by calling (207) 624-6400. SafetyWorks! can provide a free on-site safety consultation to help schools. SafetyWorks! is not OSHA and cannot issue fines or citations.

Hazardous Waste Management

I. Why we are concerned about hazardous waste management: There are three reasons we are concerned about hazardous waste management in schools: all schools generate hazardous waste, many don't manage it correctly and improper management can result in human health impacts, environmental harm and costly clean-ups.

II. State laws and rules that affect hazardous waste management at schools

Hazardous wastes are regulated by federal and state environmental and public safety laws. For regulatory purposes, there are three types of hazardous wastes:

1. Listed hazardous wastes. These wastes or waste constituents are specifically listed by regulators as being hazardous (e.g. the State and EPA list benzene and mercury on their list of hazardous wastes. Thus, they are listed hazardous wastes).
2. Characteristic hazardous wastes. These are wastes which are deemed to be hazardous because they exhibit AT LEAST ONE of the following characteristics:
 - Ignitable - easily combustible or flammable. A liquid with a flash point of less than 140° F, an ignitable compressed gas, or an oxidizer would all be examples of characteristic hazardous waste.
 - Corrosive - dissolves metals, other materials, or burns the skin. A corrosive hazardous waste is an aqueous liquid with a pH less than or equal to 2.0, or greater than or equal to 12.5
 - Reactive – unstable or undergoes rapid or violent chemical reaction with water, shock, heat pressure, or other materials. May react to give off toxic gases.
 - Toxic - an extract from the waste is found to contain high concentrations of specific heavy metals or pesticides.
3. Acutely hazardous wastes. These are referred to as “P” listed hazardous waste. This category includes wastes from certain pesticides. Even very small amounts of acutely hazardous wastes are regulated in the same way as larger amounts of hazardous wastes.

In Maine, the Department of Environmental Protection (DEP) regulates the management of hazardous wastes. *The Maine Hazardous Waste, Septage & Solid Waste Management Act*, 38 MRSA § 1301 et seq. gave authority to the Board of Environmental Protection (BEP) to adopt hazardous waste rules. The BEP did so by adopting Chapter 850 et seq., the Maine Hazardous Waste Management Rules. Maine adopted and implements the federal hazardous waste rules on behalf of the US Environmental Protection Agency (EPA) and Maine's rules are consistent with the federal Resource Conservation and Recovery Act of 1976.

III. Actions needed to be in compliance with the laws and rules

The first action a school needs to undertake is to identify the hazardous wastes it generates and the school's regulatory status. This document assumes that Maine primary and secondary schools can manage their hazardous waste as Small Quantity Generators (SQG). If, after reading through this section, you think your school may generate hazardous waste in quantities that would elevate its generator status to Small Quantity Generator Plus or Large Quantity Generator you should contact the DEP for assistance.

A school may generate hazardous waste in any program, but they should pay particular attention to the following. This list is not comprehensive.

Location	Potential Hazardous Waste	Yes	No
Facility maintenance	Oil based paints and thinners		
	Petroleum based solvents		
	Pesticides eg. bleach, antimicrobials, sanitizers', Weed & Feed' products		
	Waste gasoline/ fuel additives		
	Boiler chemicals		
	Aerosols		
	Some wood fillers		
	Antifreeze if contaminated		
	Drain openers eg. Drano		
	Miscellaneous janitorial products		
	Floor strippers/ buffers/ waxes		
	Air fresheners		
	Universal wastes (see UW section)		
Office	Duplicating fluid		
	Some glues		
Art Program	Solvents/ paint thinner		
	Oil based paints		
	Paints/ glazes with heavy metals		
	Photography chemicals		
	Computer toners and inks		
	Aerosols		
	Petroleum based inks		
	Some glues		
	Asbestos around kiln (special waste)		
Science Program	A variety of hazardous chemicals		
	Mercury devices (universal waste)		
	Specimens in formaldehyde		
	Some compressed gases		
Nurses Station	Mercury devices (universal waste)		
Classroom	Teacher's favorite cleaners		
	Some glues and art supplies		
Kitchen	Oven cleaners		
	Disinfectants, antimicrobials, sanitizers		

DEP Hazardous Waste Requirements (Chapters 850 et. seq.) *Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.*

Requirement (for SQG)	Action	Yes	No
1. Generator status: A school must determine its generator status, based on the hazardous waste generation of the entire campus.	Has the school determined its generator status? (SQGs generate < 220 pounds or about 27 gallons per month and do not accumulate >55 gallons on site at one time. If you generate acute hazardous waste, the limit is <1 kilogram per month.)		
2. Storage of waste: A school must store its hazardous waste consistent with DEP rules.	Are hazardous wastes stored in containers of 55 gallon size or less?		
	Is the container labeled "Hazardous Waste"?		
	Does the container have an accumulation start date? (when the first drop went in)		
	Does the container have the date when it became full?		
	Has any container been full for more than 180 days?		
	Are all waste containers in good condition?		
	Are wastes stored in compatible containers?		
	Are all hazardous waste containers on a firm working surface? <i>(recommended)</i>		
	Are all waste containers closed when not in use? <i>(recommended)</i>		
	Do all containers have secondary containment? <i>(recommended)</i>		
3. Waste shipment: A school must ship its hazardous waste consistent with DEP rules.	Does the school have manifest records for all hazardous waste shipments of the last 3 years? <i>(longer recommended)</i>		
	Has the school used a Maine licensed hazardous waste transporter?		
	Has the hazardous waste gone to a licensed hazardous waste facility?		
4. Waste treatment and disposal: A school may not treat or dispose of hazardous waste unless licensed to do so.	Is evaporation or other forms of treatment (other than neutralization of <500ml of acid/base that is hazardous due to corrosivity only) done prior to disposal?		
	Does the school have a silver recovery unit for its photography program?		
	If there is a silver recovery unit, has the school received a treatment license from DEP?		
5. Accidents and spills: A school must report <u>all</u> hazardous matter and hazardous waste discharges to the DEP. Call 800-452-4664 to report a spill.	Does the school have a hazardous spill plan as part of its Chemical Hygiene Plan or Hazardous Communication Plan? (see DOL section) <i>DEP requires a call, but not a plan.</i>		

IV. Best management practices and recommendations

The checklist not only indicates the requirements, it also provides guidance on best management practices. Other important information is not brought out in the checklist so it is provided below.

1. Hazardous waste determination: When it comes to proper disposal, you first need to make the determination if the waste is hazardous or non-hazardous. There are some documents that can help you make the determination.

- DEP's Online Chemical Inventory form: You can always check the DEP online version of the Chemical Inventory form. See the link below. The inventory form has a column on the far right that tells you if a chemical, all by itself, would be a listed or characteristic hazardous waste, or not. If you are using a chemical that the form says is hazardous, and it is not acid or base that can be neutralized (see below), you must manage the waste as hazardous.

<http://www.maine.gov/dep/mercury/school.htm>

If you have mixed that chemical with others, you must dispose of the whole mixture as hazardous waste.

- The Hazardous Waste Rules: Determine if the waste is a listed hazardous waste. These are designated by a code. The lists of chemicals and their codes are found in the Hazardous Waste Rules chapter 850. The link is given below. You should look at the F001-F005 codes on page 25 of the rules. The other F codes are tied to processes that would not be found at a school normally. You should also check the P and U codes which are on pages 35-51 of the rules. The P and U codes apply to unused materials.

<http://www.maine.gov/dep/rwm/rules/index.htm#rulesadmbbrwm>

- MSDS form: Your MSDS should be a good guide as to whether a chemical is hazardous or not. Many chemicals are hazardous due to certain characteristics: ignitable, corrosive, reactive or toxic. The information can usually be found on the MSDS.

ignitable: See Section 5 of your MSDS, *Fire-Fighting Measures*. Look for the 'Flash Point'. Liquids with a flash point of less than 140 °F as determined by a Pensky-Martens Closed Cup tester, (usually designated by (CC) on an MSDS) are hazardous. The only liquid exceptions are aqueous solutions containing less than 24% alcohol by volume.

If it is a solid and is capable under standard temperature and pressure, of causing a fire through friction, absorption of moisture or spontaneous chemical changes, and burns very vigorously, then it is also considered hazardous. You may not find this under ignitability, but the MSDS should state that it is a flammable solid. Zinc dust is an example of a flammable solid.

Many compressed gases are also ignitable. Example: propane.

corrosive: See Section 9 of your MSDS, *Physical and Chemical Properties*. Look for the pH. Corrosive chemicals have a pH less than or equal to 2 or greater than or equal to 12.5.

reactive: See Section 10 of your MSDS, *Stability and Reactivity*. This section provides information on chemical incompatibilities, conditions to avoid, decomposition products and the chemical's stability and reactivity. Chapter 850 of the Maine Hazardous Waste Rules define reactivity as follows:

A waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

- (i) It is normally unstable and readily undergoes violent change without detonating.
- (ii) It reacts violently with water.
- (iii) It forms potentially explosive mixtures with water.
- (iv) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.
- (v) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.
- (vi) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.
- (vii) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

toxic: A waste exhibits the characteristic of toxicity if it contains any of the following at concentrations greater than or equal to the respective values given. Note these are either heavy metals or pesticides. Metal compounds are often hazardous as well. Example: Barium carbonate is hazardous due to the barium. Since you may not know the concentration of these toxic materials, it is prudent to treat that waste, or any mixture, as hazardous waste. Please note that the US EPA has an expanded list of toxics that the State of Maine has not adopted as yet. Under federal rules these 26 additional toxics still need to be handled as hazardous waste upon disposal.

Contaminant Regulatory Level (mg/L)*

Arsenic	5.0	Lindane	0.4
Barium	100.0	Mercury	0.2
Cadmium	1.0	Methoxychlor	10.0
Chromium	5.0	Selenium	1.0
2,4-D	10.0	Silver	5.0
Endrin	0.02	Toxaphene	0.5
Lead	5.0	2,4,5-TP (Silvex)	1.0

* (as determined using the Toxic Characteristic Leaching procedure).

- Flinn catalog: Lastly, **the vast majority of the Flinn methods of disposal are illegal in Maine** (and most other states) BUT the rest of the catalog has good information. Check the listing for the chemical in question. If there is a ***Hazard Alert**, that should be a good indication that the chemical may be a hazardous waste when you are done with it. Go to the DEP Inventory form to check. If it is not there, then go to the MSDS or the listings in Chapter 850.

2. Waste containers: If a chemical came in a plastic bottle or a glass bottle, and you have not changed the chemical structure such that it would no longer be compatible with the original type of container, you should probably store the chemical waste in the original type of container. In short, if it came in a plastic bottle, put the waste back in a plastic bottle as long as the chemical/chemical mixture is still compatible with plastic. Secondary containment is highly recommended. Waste containers should always be closed unless adding to it. See the checklist above for more information.

When a hazardous waste transporter comes to pick up, he/she will sort your waste by compatible shipping and disposal class and will pack your waste container in a five gallon bucket with a locking lid or a larger drum. Waste disposal costs will be the same whether the bucket has one waste container or more inside.

3. Waste handling: Do not mix different types of wastes. This is for a variety of reasons. One, you do not want to have any unintended reactions. Second, by mixing wastes it makes it more difficult and perhaps more expensive to get rid of them. For example if you have a flammable waste, it may be able to go for fuel blending, which is a relatively inexpensive disposal method. If you mix it with a toxic waste such as a heavy metal, it would no longer be able to go for fuel blending and would be much more expensive to dispose of.

Always store your hazardous wastes in an area that is locked when not in use. Flammable wastes should be stored in a flammable cabinet as long as it is clearly marked with the words 'Hazardous waste' and the designation of what is in it exactly, eg. 'acetone'. Again, see the checklist above for more information.

4. Waste treatment and disposal: Here are some tips about treatment and disposal.

- The majority of the **Flinn Scientific treatment/disposal methods given in their catalog are illegal in Maine and in most parts of the US.** Never rely on the Flinn disposal methodology.
- Evaporation of hazardous waste is a form of treatment and is illegal in Maine without a license. This includes both active and passive evaporation.
- If a waste is hazardous and it's corrosive only (an acid or base), as long as you can neutralize it in batches of 500 milliliters per treatment, you can then dispose of it down the sink with plenty of water. (Chapter 856, Section 6G, Maine Hazardous Waste Rules.) You should check the pH before putting it in the sink to make sure it is close to neutral, or at least well out of the <2 or >12.5 ranges. If you have something that is

corrosive and, for example, it has lead too, then it is not corrosive only - because of the lead - and must be managed as hazardous waste. It may not go down the sink!

- You should talk with the wastewater treatment folks in the beginning of the year and have a written agreement, sometimes called a pretreatment agreement with them about what materials are acceptable to put down the sink during the school year.
- If you are on a septic system, do not put anything down the sink unless you know it is non-hazardous. Rule of thumb, only put household quantities of a non-hazardous chemical into a septic system.

5. Waste transportation: As a hazardous waste generator, a school needs to contract with a licensed hazardous waste transporter. Some hazardous waste transporters also take universal wastes. It may be cost effective to coordinate the pickup of both waste types with one company. See the DEP web-site at the following address for the names of licensed transporters of both hazardous and universal wastes. Go to the heading "Active Transporters of Hazardous Waste."

<http://www.maine.gov/dep/rwm/data/pdf/activehaztrans.pdf>

6. Generator status: Below is an excerpt of the 'Handbook for Hazardous Waste Generators' which can be found at

<http://www.maine.gov/dep/rwm/hazardouswaste/index.htm>

Schools should be able to maintain an SQG status and have a once a year pick-up of their hazardous and universal wastes.

Small Quantity Generator (SQG)

- **Generates** less than 100 kilograms of hazardous waste per month. 100 kilograms (kg) = 220 pounds (approximately 27 gallons or ½ drum, based on the weight of water); AND
- **Accumulates** a total of no more than 55 gallons (1 drum) of hazardous waste on site at any one time.
- SQGs have the fewest regulatory requirements (see previous checklist).
- In addition, if a school generates acute hazardous waste, as small quantity generator you may not generate more than one kilogram (about 2.2 pounds) of acute hazardous waste nor store more than that at any one time.

SQG Plus (1 to 3 drums)

- **Generates** less than 100 kilograms of hazardous waste per month (approximately 27 gallons based on the weight of water); AND
- **Accumulates** one to three drums, but no more than 600 kilograms (1320 pounds) of hazardous waste on site at any one time.
- SQG Pluses have extra regulatory requirements in addition to those that SQGs must comply with.
- In addition, if a school generates acute hazardous waste, as small quantity generator you may not generate more than one kilogram (about 2.2 pounds) of acute hazardous waste nor store more than that at any one time.

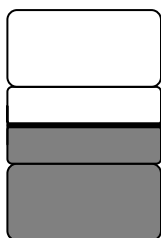
Large Quantity Generators (LQG)-

- **Generates** more than 100 kg per month; OR
- **Accumulates** more than 600 kg of hazardous waste on site at any one time.
- Large Quantity Generators have the most regulatory requirements.

You must add up all of the hazardous waste you generate and/or accumulate at your site.

Monthly Generation Rate

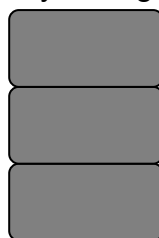
SQG- ≤ 1/2 drum



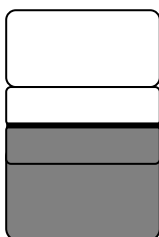
On Site Accumulation

And Up to 1 drum

180 day storage limit after the drum is full.



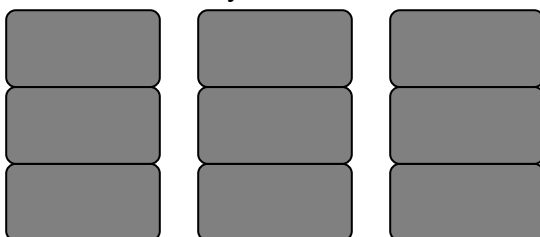
SQG Plus- ≤ 1/2 drum



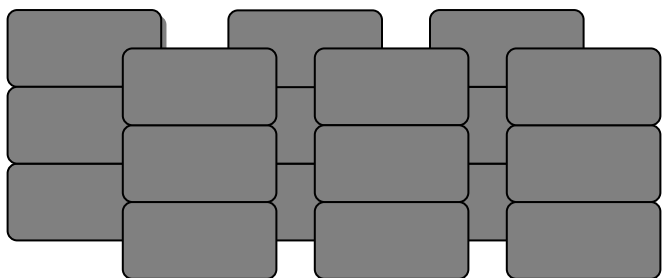
And

Up to 3 drums, storage limited to

180 days after each is full



LQG- >1/2 drum



Or more than 3 drums or 1320 lbs, (provided there is sufficient storage capacity,) storage limited to 90 days after the container's accumulation start date.

Contact the DEP staff at 287-2651 to learn about other requirements if you think you might be an SQG Plus or LQG.

7. To report a spill or accident: All spills must be reported to the Department of Public Safety (State Police) immediately at 800-452-4664. Additionally, hazardous waste spills must be reported in writing to the DEP within 15 days and hazardous material spills within 30 days. Please use the following form to report spills to DEP.

**HAZARDOUS WASTE & HAZARDOUS MATERIAL
SPILL OR DISCHARGE REPORT FORM**

All spills must be reported to the Department of Public Safety (State Police) immediately at 800-452-4664. Additionally, hazardous waste spills must be reported in writing to the DEP within 15 days. Hazardous material spills must be reported in writing to the DEP within 30 days. This form should be filled out by the spill or and returned to the DEP at the following address: Maine DEP, BRWM, 17 State House Station, Augusta, ME 04333

DATE & TIME OF CHEMICAL RELEASED: _____

NAME & ADDRESS OF COMPANY: _____

EXACT LOCATION OF SPILL: _____

CHEMICAL SPILLED: _____

AMOUNT: _____

CIRCUMSTANCES CAUSING RELEASE: _____

AMOUNT OF CHEMICAL RECOVERED: _____

METHOD OF RECOVERY: _____

METHOD & LOCATION OF DISPOSAL: _____

WERE THERE ANY PERSONAL INJURIES, HOSPITALIZATIONS OR DEATHS?

ACTIONS TAKEN TO PREVENT SIMILAR INCIDENT FROM RECURRING: _____

WAS THIS INCIDENT REPORTED IMMEDIATELY? DATE: _____ TIME: _____

CONTACT'S NAME: _____ PHONE# _____

REPORT PREPARED BY: _____ DATE: _____

IV. Resources

If you have any questions about hazardous waste generation, handling or disposal, you may call the Maine Department of Environmental Protection at their toll-free number, **1-800-452-1942** and ask to speak with a hazardous waste specialist.

If you would rather research the hazardous waste issue of concern you may go to the DEP web site:

<http://www.maine.gov/dep/rwm/hazardouswaste/>

You will find the hazardous waste laws, regulations, generator handbook and a list of transporters on the web, as well as other pertinent information.

On-site assistance: You may also request a complimentary, on-site visit from a DEP staff person. In general, it is an expectation that any violations found will be corrected within a reasonable time frame.

Integrated Pest Management

I. Why we are concerned about pest management in schools: A survey conducted by the Maine Department of Agriculture, Food, and Rural Resources in 2000 showed that three out of four Maine schools use pesticides (in addition to disinfectants which are used by all schools), and one out of three Maine schools use pesticides regularly (3 or more times/year). People vary widely in their sensitivity to chemicals such as pesticides, but children are among the most vulnerable to chemical-exposure risks. Similarly, some people are very sensitive to certain pests, such as stinging insects and poison ivy. In Maine, as elsewhere, schools must balance health risks of uncontrolled pest infestations with those of pesticides to ensure the health and safety of school children, staff and visitors.

The State of Maine recommends an Integrated Pest Management (IPM) approach as the best way to achieve that balance. Under IPM, schools implement a well-organized and comprehensive management plan with low-risk control strategies when necessary to prevent pests from reaching unacceptable levels. IPM targets troublesome pests and minimizes negative impacts on people and the environment.

II. State laws and rules that affect school pest management

Four state agencies administer laws and rules that affect how schools manage pesticides!

- The Maine Department of Agriculture, Food and Rural Resources' Board of Pesticide Control (BPC) has jurisdictions over pesticide management in schools. In August 2003 the Standards for Pesticide Applications and Notification in Schools Regulation (CMR 01-026 Chapter 27) came into effect. A copy is included in this section. (STATUTORY AUTHORITY: 7 M.R.S.A. §§ 601-625 and 22 M.R.S.A. §§ 1471-A-X.).
- The Maine Department of Labor (DOL), Bureau of Labor Standards administers the *Occupational Safety and Health Act* (OSHA) of 1970 for public sector employees such as teachers,(effective April 28,1971. Public law 91-596, found in 29 CFR 1910). Use of pesticides may trigger the Hazard Communication plan requirements and the reader should refer to the Hazard Communication section beginning on page 83 in this manual.
- The Maine Department of Education (DOE) was required by statute to establish rules governing the purchase and storage of hazardous chemicals, including those used as pesticides. (20-A MRSA Section 15614.14). The department adopted Chapter 161 rules in 1990 to fulfill the statutory mandate. The checklist of the rule requirements and a copy of the rules can be found on pages 22 and 49 through 53 respectively.
- The Maine Department of Environmental Protection (DEP) regulates hazardous waste management and disposal (statutory authority 38 M.R.S.A. Section 1301 et.seq., Hazardous Waste Management Rules Ch.850 - 857). Many pesticides, if unwanted, obsolete, unusable, or spilled are considered hazardous waste. The reader is referred to the hazardous waste section of this manual, beginning on page 87 for information on proper handling and disposal.

III. Actions needed to be in compliance with the laws and rules

Beginning August 30, 2003, all public and private Maine schools serving any grades K through 12 were required to take specific steps to the minimize pesticide exposure risks. Below is a checklist of the requirements.

IPM: *Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.*

Requirement	Action	Yes	No
IPM Policy & Notification	Has a written IPM policy been adopted?		
	Has the IPM policy been implemented?		
	Are parents and staff annually notified within 2 weeks of the start of school about the IPM policy?		
	Did the notice include: <ul style="list-style-type: none"> • That an IPM policy has been adopted • That pesticides may be used periodically • That the school will provide additional notification of specific pesticide applications • Where records of prior applications may be seen • Where the IPM policy, standards of application and state regulations may be reviewed • Identification of application notification procedures 		
IPM Coordinator	Has the school appointed a <u>school employee</u> as the IPM Coordinator?		
	Is the Coordinator responsible for pest monitoring, pesticide applications and all notification activities?		
	Does the Coordinator maintain the following: <ul style="list-style-type: none"> • The IPM policy • The state rule CMR 01-026 Chapter 27 • All records of pesticide applications • Copies of product labels and MSDS's for all pesticides used • Pest monitoring/sighting and identification records • Records of IPM steps taken 		
	Are all records of pests, pesticide applications, product information and IPM actions kept for at least 2 years?		
	Does the Coordinator have the above records readily available?		
Employee, Parental and Guardian Notification of Pesticide Application	Do notices of pesticide applications include the following? <ul style="list-style-type: none"> • Trade name and EPA registration number of the pesticide • Approximate date and time of application • Name and phone number for additional information • Location of the application • Reason for the application 		
	*During the regular school year are notices of pesticide applications sent to staff and parents/guardians at least 5 days prior to the application? (see note below)		
Signage	*Are signs posted in a common area and at entry points to application areas at least 2 working days prior to an application? (see note below)		

* except for applications of bait blocks, gels, pastes, granular or palletized materials placed in areas inaccessible to students, and hand-powered application of general use ready-to-use pesticides for emergency control of stinging or biting insects.

IPM requirements continued: Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.

Requirement	Action	Yes	No
	Do signs remain in place at least 48 hours after an application?		
	Are indoor signs <ul style="list-style-type: none"> • 8.5" wide x 11" tall • Light colored with dark bold letters • Have the word "Caution" in 72 point • Have the words "PESTICIDE APPLICATION NOTICE" in 30 point type or larger • Have all the information included in the Notice of Pesticide Application provided to staff, parents and guardians in at least 12 point type (see above) 		
	Are outdoor signs made of rigid weather resistant materials and include all the above information and the BPC designated symbol?		
	Are outdoor signs at least 5" wide x 4" tall?		
Application	Are applications done according to the IPM policy and by a state licensed Applicator?		
	Are indoor pesticide applications limited to baits, wall void and crack/crevice treatments and pool/spa disinfectants unless pests threaten the health and safety of occupants as determined by the IPM coordinator?		
	Prior to a pesticide application have <ol style="list-style-type: none"> 1. pests and pest conducive conditions been monitored? 2. pests been identified and determined to exceed acceptable thresholds? 3. acceptable non-pesticide control measures been taken? 		
	Is the ventilation/air conditioning shut off or the building evacuated during indoor applications when space, spot, surface or fumigation treatments are applied?		
	Are people other than essential staff kept outside the room when pesticides other than baits, pastes or gels are applied?		

Frequently Asked Questions About State Regulations Concerning Pesticides and Integrated Pest Management in Maine Schools

What is a pesticide?

- A pesticide is any natural or man-made chemical product that claims to kill, repel or mitigate a living organism. Pesticides typically used on school properties include: ant cups, insect sprays and dusts; weed control products; mouse poisons; and disinfectants applied to control mold or germs. Most, but not all, pesticides sold in Maine have an 'EPA Reg. No.' (EPA Registration Number) on the container label.

What is Integrated Pest Management?

- Integrated Pest Management, or IPM for short, is a decision-making process that combines practical pest management strategies to prevent or control pests in ways that reduce risks to health and the environment.

What does IPM include?

- Regular monitoring to detect problems early;
- Acting against pests only when necessary;
- Choosing effective, low-risk pest control methods;
- Record-keeping and evaluation; and
- Outsmarting pests for long-term solutions.

May pesticides be used in schools?

- Pesticides may only be legally applied in Maine schools by persons having a valid commercial pesticide applicator license in the proper category for the intended purpose. The exceptions to this regulation are the use of disinfectants used for routine cleaning, the use of insect repellents for personal protection, and emergency use of over-the-counter insecticides for control of stinging or biting insects that pose an immediate threat to human health.

What is required by the pesticide regulation effective August 30, 2003?

- All schools must adopt and implement an Integrated Pest Management (IPM) policy.
- Superintendents or school boards must appoint a member of the school staff as IPM Coordinator.
- Within the first 2 weeks of school, parents, guardians and school staff must be notified about the school's IPM policy and notification procedures for possible pesticide use during the year.
- Public and private schools must notify parents, guardians and staff before pesticides are used in schools or on school grounds.

Does this new regulation apply to childcare programs and preschools, too?

- Yes, if the childcare program is in a school or shares facilities with any grades K through 12.

Why did the Board of Pesticides Control adopt this regulation?

- The Board convened a diverse stakeholder committee representing school administrators and staff, pest management professionals, environmental organizations and others who developed the regulation to address potential health risks posed by the use of pesticides in schools.

Must the school hire an outside contractor to do pest management?

- No. Many pest management solutions can be done by school staff. The most effective solutions include keeping facilities clean and well maintained, regularly inspecting buildings and grounds for evidence of pests and pest prevention needs, and the use of non-pesticide pest traps. Pesticides may not be needed.

Does the Board of Pesticides Control recommend any specific pest control companies or have any companies been contracted to help with compliance?

- No. The BPC does not recommend any specific pest control company and no company has been contracted to help with compliance with this rule. The Board can make available a list of licensed companies and recommends that schools use the contracting guidelines available at www.thinkfirstspraylast.org/schoolipm/ or by calling 287-7545.

What is required of the Integrated Pest Management Coordinator?

- The IPM Coordinator is a school employee, not a contractor, who implements the school IPM policy. This person must be knowledgeable about IPM but is NOT required to be licensed unless pesticide application is also part of their duties. However, many schools find that having a staff member become licensed is an asset whether contracting for IPM services or doing it in-house.
- Maintains the pest monitoring and pesticide application records.
- Notifies parents, guardians and staff and ensures that required signs are posted in advance of non-exempted pesticide applications (see below)
- Makes available to requesting parents, guardians or staff a copy of the Pesticides in Schools Regulation (CMR 01-026 Chapter 27), pesticide application records and information about pesticides used at the school.
- Makes the school's IPM policy available to anyone requesting it.
- Ensures all pesticide applications are performed in compliance with the school's IPM policy.

How must the initial notification be done?

- We recommend it be included in the school's handbook given out at the start of each year. Or, the notice can be sent home in backpacks, by e-mail or any other way as long as the school is assured that all staff, parents and guardians receive it. Sample notices follow in this section and are also available at www.thinkfirstspraylast.org/schoolipm/ or by calling 287-7545.

If the school does not use any pesticides, must the initial notice be given?

- Yes. The regulation requires that all schools adopt an IPM policy and that all schools notify staff, parents and guardians about the policy, where it may be reviewed and how the school plans to notify parents and staff before a pesticide is applied.

How is specific pesticide application notification given?

- Schools must notify parents, guardians and staff at least 5 days in advance of non-exempted pesticide applications, providing specific information about the pesticide.
- Schools can choose between providing universal notice to all staff, parents or guardians before each non-exempted pesticide application or only to those requesting to be put on a notification registry.
- At least two working days prior to non-exempted pesticide applications schools must also post the required sign at points of access and in a common area of the school. For signage specifics contact the Maine Board or Pesticides Control (287-7545) or visit the Web site.

Do licensed school staff have to follow the same regulations as contracted pest management professionals?

- Yes.

How much will it cost to comply with this regulation?

- Unless a school chooses to send notices via U.S. mail, there should be minimal costs for printing the required notices and signs. Other infrequent costs include optional training sessions, optional licensing of school staff to apply pesticides and the resource materials associated with training and licensing. In the long term, Integrated Pest Management programs usually cost less than traditional monthly pesticide applications. Cost of non-compliance could be much higher!

For more information

- **Maine Board of Pesticides Control: 207-287-2731, e-mail pesticides@maine.gov**
Web site: www.thinkfirstspraylast.org
- **Maine School IPM Program: 287-7616, e-mail: kathy.murray@maine.gov, Web site: www.thinkfirstspraylast.org/schoolipm/**



Sample Integrated Pest Management Policy for Maine Schools

Pests can pose significant problems to people, property, and the environment. Pesticides pose similar risks. Children spend a great deal of time in schools and face greater potential for health effects resulting from pest and pesticide exposure. By reducing reliance on pesticides and incorporating low-risk control options, Integrated Pest Management (IPM) reduces both pests and pesticide risks. It is therefore the policy of this school to incorporate IPM procedures for controlling pests.

Integrated pest management procedures

IPM relies on pest monitoring and the most economical and least hazardous combination of cultural, physical, biological, and/or chemical controls to prevent unacceptable levels of pest activity and damage. The school will develop a site plan for each locality on school property that may experience pest problems. These plans will incorporate IPM and outline specific management tactics.

The full range of management options, including no action at all, will be considered. The choice of using a pesticide is based on a review of all other available options and a determination that these options are not acceptable or are not feasible. Non-chemical pest management methods are used whenever possible. Direct action will be used only when specific pest thresholds are reached. When it is determined that a pesticide must be used, the least hazardous material and method of application will be chosen. Pesticide applications will be timed to minimize their impact on school grounds. All pesticides will be handled according to state and federal law.

Pest management objectives

- Maintain a safe and sustainable school environment.
- Protect human health by suppressing pests that threaten public health and safety.
- Reduce exposure of humans, particularly children, to pesticides.
- Reduce or prevent pest damage to school properties.
- Reduce environmental pollution.
- Reduce the costs of pest management.
- Prevent pests from spreading beyond school property.
- Enhance the quality of life for students, staff, and others using school property.



IPM Coordinator

The school will appoint an IPM Coordinator responsible for overseeing implementation of the IPM Policy and site plans. The Coordinator's responsibilities will include:

- Recording all pest sightings by school staff and students.
- Recording all pesticide use and making those records available.
- Making labels and material safety data sheets for all products applied available.
- Coordinating management activities with pest control contractors.
- Approving appropriate pesticide applications—methods, materials, timing, and location.
- Assuring that all of the pest control contractor's recommendations on maintenance and sanitation are carried out where feasible.
- Posting and notification of pesticide application.
- Evaluating the school's progress in implementing the IPM plan

Education

The school community will be educated about potential pest problems and IPM methods used to achieve the pest management objectives. From the very beginning, IPM should involve people from all segments of the school community.

Record keeping

Pest sighting data sheets and pest control records will be kept current and accessible to verify the need for treatments and track the effectiveness of management activities. Pesticide records shall be maintained on site and meet the requirements of the Maine Board of Pesticides Control.

Notification/Posting

A notice will be provided to school staff, students, and parents at the beginning of each school year briefly explaining the school's pesticide use policy. The notice must explain how the school will provide written notification at least 5 days before each high-risk pesticide application done during the regular school year and how signs will also be posted two days before and after high-risk treatments applied any time of year.

Pesticide storage and purchase

Pesticide purchases will be limited to the amount authorized for use during the year. Pesticides will be stored in an appropriate, secure site that is not accessible to students or unauthorized personnel and disposed of in accordance with label directions and state regulations.

Pesticide applicators

Any person applying pesticides on school grounds will be trained in the principles and practices of IPM and licensed as a commercial pesticide applicator by the Maine Board of Pesticides Control. Applicators must follow state regulations and label precautions and must comply with the School IPM Policy and pest management site plans.

This model policy is provided to Maine K-12 schools by the Maine School Integrated Pest Management Program, a partnership between the Maine Department of Agriculture, Food and Rural Resources, the Maine Board of Pesticides Control, and the University of Maine Cooperative Extension Pest Management Office.



Suggested Notification Template – (Registry Option)

Provided by the Maine School IPM Program

Download this document at www.thinkfirstspraylast.org/schoolipm

(Note: Schools must use either ‘Universal Notification’ to notify all parents, guardians and staff in advance of each planned pesticide application OR ‘Registry Notification’ to notify only those whose names are on the school’s Pesticide Notification Registry. The suggested letter on this page is for ‘Registry Notification’.)

Dear Parent, Guardian, or Staff Member,

I am writing about three subjects that can affect children’s health in school: pests, pesticides and your right to know.

Pest Control

Because pesticides pose risks, the school uses an alternative approach to merely applying pesticides. Control of insects, rodents, and weeds at our school focuses on making the school buildings and grounds an unfavorable place for pests to live and breed. Through maintenance and cleaning, we will reduce or eliminate available food and water sources and hiding places for the pests. We will also routinely monitor the school area to detect pest problems and prevent the pests from becoming established. Some techniques we will use include pest monitoring, sanitation, pest exclusion, proper food storage, pest removal and--as a last resort--pesticides. This holistic approach is often called Integrated Pest Management (IPM).

Pesticide Use

Sometimes pesticide use may be necessary to control a pest problem. When that happens, the school will use the lowest risk products available. If higher risk pesticides must be used, notices will be posted at application sites and parents, guardians and staff have a right to know.

Your Right to Know

Parents, legal guardians, and school staff will be notified of specific pesticide applications made at the school. **To receive notification, you must be placed on the notification registry by sending in the attached ‘Request to be Notified of Planned Pesticide Applications’.** Notification will be given at least five days before planned pesticide applications during the regular school year. Every time that pesticides are applied either during the regular school year or during vacations, pesticide application notices will also be posted in the school and on school grounds two working days before until 48 hours after the application. Notification need not be given for pesticide applications recognized by law to pose little or no risk of exposure to children or staff.

The school also keeps records of prior pesticide applications and information about the pesticides used. You may review these records, a copy of the School’s Integrated Pest Management Policy and the Pesticides in Schools regulation (CMR 01-026 Chapter 27) by contacting our IPM coordinator, _____, at _____.

If you have any questions, please contact _____. For further information about pests, pesticides and your right to know, call the Board of Pesticides Control at 207-287-2731 or visit the Maine School IPM web site at www.thinkfirstspraylast.org/schoolipm.

Sincerely,

Suggested Notification Template – (Registry Option)
Suggested Form Letter for Creation of Pesticide Notification Registry
Provided by the Maine School IPM Program
Download this document at www.thinkfirstspraylast.org/schoolipm

Request to be Notified of Planned Pesticide Applications Done During the Regular School Year

_____ School

I am a parent, legal guardian or staff member of this school and I want to be notified before specific pesticide applications are made at the school or on the school grounds except the following: 1) pesticides injected into cracks, crevices or wall voids; 2) bait blocks, gels, pastes, granular and palletized materials placed in areas inaccessible to students; 3) paints, stains and wood preservatives; 4) disinfectants used for routine cleaning; 5) non-powered applications of ready-to-use general use pesticides to control or repel stinging or biting insects where there is an urgent need to protect the health or safety of a student, staff member or other school occupant; 6) when applied during school vacation weeks or outside of the regular school year; and 7) indoor applications of a pesticide with no re-entry interval specified on its label but entry to the treated area is restricted for at least 24 hours.

I would prefer to be contacted by (circle one): U.S. Mail E-mail Telephone

Name: _____

Date: _____

Mailing Address: _____

Daytime Phone: _____ Evening Phone: _____

E-mail: _____

Return this form to:

_____ (IPM Coordinator)

_____ (School Address)

_____ (City/Town, Zip)

Suggested School Pesticide Policy Notification Template – (Universal Notice Option)

Provided by the Maine School IPM Program

Download this document at www.thinkfirstspraylast.org/schoolipm

(Note: Schools must use either ‘Universal Notification’ to notify all parents, guardians and staff in advance of each planned pesticide application OR ‘Registry Notification’ to notify only those whose names are on the school’s Pesticide Notification Registry. The suggested letter on this page is for ‘Universal Notification’.)

Dear Parent, Guardian, or Staff Member,

I am writing about three subjects that can affect children’s health in school: pests, pesticides and your right to know.

Pest Control

Because pesticides pose risks, the school uses an alternative approach to merely applying pesticides. Control of insects, rodents, and weeds at our school focuses on making the school buildings and grounds an unfavorable place for pests to live and breed. Through maintenance and cleaning, we will reduce or eliminate available food and water sources and hiding places for the pests. We will also routinely monitor the school area to detect pest problems and prevent the pests from becoming established. Some techniques we will use include pest monitoring, sanitation, pest exclusion, proper food storage, pest removal and--as a last resort--pesticides. This holistic approach is often called Integrated Pest Management (IPM).

Pesticide Use

Sometimes pesticide use may be necessary to control a pest problem. When that happens, the school will use the lowest risk products available. If higher risk pesticides must be used, notices will be posted at application sites and parents, guardians and staff have a right to know.

Your Right to Know

Parents, legal guardians, and school staff will be notified of specific pesticide applications made at the school. Notification will be given at least five days before planned pesticide applications during the school year. In addition, for pesticides applied anytime during the year, notices will be posted in the school and on school grounds. Notification need not be given for pesticide applications recognized by law to pose little or no risk of exposure to children or staff.

The school also keeps records of prior pesticide applications and information about the pesticides used. You may review these records, a copy of the School’s Integrated Pest Management Policy and the Pesticides in Schools regulation (CMR 01-026 Chapter 27) by contacting our IPM coordinator, _____, at _____.

If you have any questions, please contact _____. For further information about pests, pesticides and your right to know, call the Board of Pesticides Control at 207-287-2731 or visit the Maine School IPM web site at www.thinkfirstspraylast.org/schoolipm.

Sincerely,

Suggested Notice of Planned Pesticide Application
Provided by the Maine School IPM Program
Download this document at www.thinkfirstspraylast.org/schoolipm

Dear Parent, Guardian or Staff Member;

I am writing to let you know that a pesticide with the trade name of

_____,

and the EPA registration number of _____, is scheduled

to be applied on _____(date), at the specific location

of _____. This is being done to help

manage _____ (name of pest) as part of our

Integrated Pest Management Program to ensure a healthy school environment.

Signs will also be posted at access points and at this central location

_____ at least two working days prior

to, and will remain posted for 48 hours after, the application. This notice is being

provided at least five days prior to the planned pesticide application in

accordance with our school's Integrated Pest Management Policy and in

compliance with Maine Board of Pesticides Control Regulation CMR 01-026

Chapter 27.

For further information regarding this action please contact the IPM Coordinator

_____ at

_____.

Sincerely,

Sample School Integrated Pest Management Plan



1) General School Information

School Name: *Cobanacook Middle School*
Address: *10 Main St., Augusta, ME 04333*
Telephone Number: *207-222-2222*
E-Mail Address:
cobanschool@sad0.k12.state.me.us
Plan Prepared By: *Iman Charge, Principal*
Date: *18 April 2002*

2) School IPM Coordinator

Name: *Kerr D. Nader*
Title: *Facilities Director*
Telephone Number: *207-222-2222 ext. 2*
E-Mail Address: *kdn@sad0.k12.state.me.us*

3) School IPM Committee or Team

School IPM Coordinator(Chair)
Facilities Director
Principal
Food Service Director
Head Custodian
School Nurse
Teacher
Student
PTO Representative
Pest Control Contractor

4) School IPM Policy

The Cobanacook Middle School desires to prevent unnecessary exposure to children and employees to pesticides and reduce the need to rely on pesticides when managing pests. It is the policy of Cobanacook Middle School to only use pesticides when pests have been identified and their presence verified. Selection of treatment options or corrective actions will give priority to least-risk actions whenever possible to provide the desired control of pests. Education of staff, students, employees, and parents about IPM will be included to achieve desired objectives. When it is determined that pesticides are needed, only products registered for use in Maine will be used, and they will be used only in strict accordance with the product label. Further, only individuals properly licensed by the Maine Board of Pesticides Control will use pesticide products. Our policy prohibits the use of any pesticide by unlicensed staff except to control stinging insects that pose an imminent threat to human health on school grounds, or disinfectants used for routine cleaning. It will be this school policy to make the appropriate notification and posting as well as to keep records of all pesticide use and other pest control actions. A copy of our full School IPM Policy Statement and this School IPM Plan will be maintained in the principal's office and available upon request.

This sample IPM Plan is provided to Maine K-12 schools by the Maine School Integrated Pest Management Program, a partnership between the Maine Department of Agriculture, Food and Rural Resources, the Maine Board of Pesticides Control, and the University of Maine Cooperative Extension Pest Management Office. For more information contact:

Maine School IPM Program
28 State House Station
Augusta, ME 04333
207-287-7616 (phone)
207-624-5065 (FAX)
TDD: 207-287-4470

Kathy.murray@state.me.us (e-mail)
www.thinkfirstspraylast.org/schoolipm

5) School Pest Problem(s) Description

Cobanacook School has historically treated to control pavement ants, German cockroaches, bald-faced hornets, dandelions and knot weed. The locations in or around the school where these have been problematic are:

Pavement ants: kitchen, pantry, classrooms along the East Wing, the teachers room, and the boys locker room.

House mice: kitchen, pantry, and basement.

German cockroach: kitchen, teachers room, under vending machines in cafeteria

Bald faced hornets: usually build nests in shrubs in front of main building, posing risks of stings from late summer until cold weather kills these hornets in late fall.

Dandelions: In all lawns.

Knot weed: spreading aggressively in the goal areas of the soccer field.

6) Inspection and Monitoring by School Staff

Annual Inspections: Our IPM Coordinator (along with pest management contractor and other appropriate school staff such as food service director, business manager, or head custodian) will perform a thorough inspection annually to identify problems and corrective actions needed to prevent and/or manage pest infestations.

The IPM Coordinator will provide the IPM Committee with an annual report identifying conditions that are contributing to our pest problems. The Committee will work with the Coordinator to plan and schedule corrective actions.

Regular Pest Monitoring: For current, recent, or likely pests, a monthly monitoring program to detect pest infestations will be established as follows:

Mice: Non-pesticide baited rodent traps in locked and secured stations in the pantry, kitchen, and basement checked and emptied daily while set.

Ants and Cockroaches: Sticky cardboard monitors will be replaced monthly under the sinks and dishwasher, along the south wall, and behind the ovens and vending machines to monitor for ants and cockroaches in the kitchen and cafeteria and under shelving units in the pantry.

All other pests: Monthly monitoring by visual inspection will be done by designated staff indoors during school year and outdoors during spring, summer and fall months.

Reporting: Monthly monitoring reports will be generated and kept on file by the IPM Coordinator.

Pest Sighting Log: Pest sighting sheets will be distributed to teachers and staff on which they may report pest activity sightings, including the identification of the pest (if known), number seen, other evidence (such as animal droppings), date, time, and location. A 3-ring binder holding the pest sighting report sheets will be kept in the main office in an accessible location. The IPM Coordinator will check for new pest sighting reports daily.

Pest Identification: When pests are detected, the specific identification of the pest will be obtained by the IPM Coordinator using professional resources such as University of Maine Cooperative Extension or other resources as necessary.

***note: Your school may elect to write all monitoring and pest identification services into your professional pest control contracts rather than using school staff.**

7) Inspection and Monitoring by Professional Pest Control Contractor

The IPM Coordinator will meet directly with the Pest Control Contractor every month to discuss monitoring reports. Bug Guy (Pest Control Contractor) will respond to the log complaints. If any sanitation or structural or operation changes are noted, it will be written in the log along with remedial recommendation. Specific service reports will also be placed in the log book documenting particular actions taken by Bug Guy.

Staff, teachers and students will be instructed on how to log pest complaints and be given a brief overview on pest identification and the conditions that promote the pests. Pamphlets and fact sheets will be made available at the time of training and or posted on bulletin boards in specific areas such as the cafeteria and teacher's lounge.

8) Pesticide Use and Storage

Bug Guy is our licensed pesticide contractor (License. # 16983). Indoors, the only pesticides used are gel baits (MaxForce Roach Killer) EPA Reg # 2243-188.

For emergency situations, Wasp Freeze 'Em' Dead REG # 3344-789 will be used to control stinging insects. All school staff will be trained on emergency response to stinging insects and custodial staff will be trained on the safe and effective use of Wasp Freeze 'Em' Dead to destroy stinging insect nests that pose an imminent threat to the health of school occupants. Custodial staff will also receive annual training on the use and storage of disinfectants used for routine cleaning.

A copy of the product label and Material Safety Data Sheet for every pesticide product used or stored at the school will be kept in an accessible location in the main office and will be provided upon request.

All appropriate steps will be taken to ensure complete compliance with state laws prohibiting unlicensed persons from the use of all pesticide products, including products such as ant cups, insect sprays, weed killers, weed and feed lawn care products, on school properties except for emergency control of stinging insects and disinfectants used for routine cleaning.

9) Non-Chemical Pest Prevention and Management

Whenever practical, the Cobanacook Middle School will use non-chemical means to control or limit pests and to minimize the use of pesticides. Along with sanitation and maintenance actions to eliminate food, water, shelter and entryways for pests, non-pesticide traps will be used to reduce pests when practicable and effective. Proper cultural practices for minimizing impacts of weeds, plant diseases, and other pests outdoors on school grounds will also be employed.

Specific practices we will use to prevent pest problems are described on the attached checklist.

10) School IPM Program Evaluation

Our school IPM plan will be evaluated every three months and at least once a year. The IPM committee or team will meet with our pest control contractor to evaluate the effectiveness of the IPM program and to develop needed improvements.

11) School IPM Plan Location

A copy of our indoor and outdoor IPM plans (including diagrams and maps of managed areas), annual and quarterly evaluations, pest contractor recommendations, and pesticide use records will be kept on file in the main administration office.

School Integrated Pest Management Inspection Checklist

Schools can reduce the likelihood and extent of pest problems through simple procedures and preventative maintenance. The following practices will help keep pests out of school buildings and hinder their establishment, thereby minimizing pest and pesticides risks. (*Download this at www.thinkfirstspraylast.org/schoolipm . Modified from IPM Standards for Schools, IPM Institute of North America*).

Kitchen and cafeteria

- ☐ Cracks and crevices in walls and floors and around permanent fixtures are sealed.
- ☐ Openings around electrical conduits, pipe chases, and ducts are sealed.
- ☐ Floor drains are covered with screens.
- ☐ Floor drains cleaned regularly with a long-handled brush and cleaning solution.
- ☐ Floor drain traps are kept full of water.
- ☐ Plumbing kept in good repair (no dripping pipes, faucets, or plugged drains)
- ☐ Sewer lines are in good repair.
- ☐ All surfaces and used utensils, trays, and dishes are cleaned and dry by the end of the day.
- ☐ All surfaces in food preparation and serving areas are regularly cleaned of grease deposits.
- ☐ Wiping cloths are disposable or laundered daily.
- ☐ Mops and mop buckets are properly dried and stored (e.g., mops hung upside down, buckets emptied).
- ☐ Overflow water trays in refrigeration units are cleaned and emptied as often as necessary to prevent water leaks.
- ☐ Areas around and under appliances and furnishings that are rarely moved (e.g., refrigerators, freezers, shelving units) are thoroughly cleaned to remove accumulated grease, dust, etc., at least monthly.
- ☐ Purchases of new kitchen appliances and fixtures are of pest-resistant design (i.e., open design, few or no hiding places for roaches, freestanding and on casters for easy thorough cleaning).
- ☐ Out-of-date charts or paper notices are removed from walls monthly.
- ☐ Vending machines maintained in clean condition inside and out.
- ☐ Recyclable containers washed with soapy water before storage or stored refrigerated or in pest-proof containers and regularly moved off-site.
- ☐ Food waste from preparation and serving areas is stored in sealed, leakproof plastic bags before removal from school grounds.
- ☐ Waste with liquid food residues (e.g., milk cartons, juice boxes) are drained of excess moisture before discarding.
- ☐ Weather stripping and door sweeps present and in good condition on exterior doors.

School IPM Inspection Checklist (con't)

Food Storage Areas

- ☐ Incoming shipments of food products, paper supplies, etc. are inspected for pests and rejected if infested.
- ☐ Food products delivered in non-pest-proof containers (e.g., paper, cardboard boxes) and not used immediately are stored refrigerated or transferred to pest-proof containers.
- ☐ Packing and shipping trash (bags, boxes, pallets) is promptly and properly disposed of or recycled.
- ☐ Stored products are rotated on a "first in, first out" basis to reduce potential for pest harborage and reproduction.
- ☐ Bulk stored products are not permitted direct contact with walls or floors, allowing access for inspection and reducing pest harborages.
- ☐ Inspection aisles (> 6" x 6") are maintained around bulk stored products.
- ☐ Food storage areas are inspected twice monthly for evidence of pests.
- ☐ Food that has come in direct contact with pests (such as ants, mice, cockroaches, mealworms or other stored product pests) is considered contaminated and is discarded promptly.
- ☐ Shelf paper not used.
- ☐ Paper products are stored separately from food products.

Classrooms, Offices and Hallways, Teachers Rooms

- ☐ Cracks and crevices in walls and floors are sealed.
- ☐ Lockers and desks emptied and cleaned at least twice per year.
- ☐ In elementary schools: sufficient space between coat hooks provided so that each child's hat and coat do not touch those of another child to prevent spreading of head lice.
- ☐ Floors cleaned regularly.
- ☐ Beverage and food containers kept for recycling are washed before storage or sealed in pest-proof container and moved off-site regularly.
- ☐ Food or food wrappers are removed from lockers, desks, teachers rooms daily
- ☐ Potential pest food items used in classrooms (e.g., beans, plant seeds, pet food and bedding, decorative corn, gourds) are refrigerated or stored in glass or metal containers with pest-proof lids.
- ☐ Refrigerators, microwave ovens, and vending machines are maintained in clean condition inside and out.
- ☐ Sink areas kept clean and dry.
- ☐ Food and beverages are allowed only in limited designated areas that are cleaned daily.
- ☐ Materials stored away from walls to allow for regular pest inspection.
- ☐ Waste materials in all rooms within the school building are collected and removed to a dumpster, compactor or designated pickup location daily.

School IPM Inspection Checklist (con't)

- ☐ Animal wastes from classroom pets or laboratory animals are flushed or placed in sealed containers before disposal.
- ☐ Furniture in classrooms and offices that are rarely moved (e.g., staff desks, bookcases, filing cabinets) receive a thorough cleaning around and under to remove accumulated lint, etc., at least annually.
- ☐ Purchases of new office and classroom furniture that is rarely moved (e.g., staff desks, bookcases, filing cabinets) are of a design that permits complete cleaning under and around the furniture, or ready movement for cleaning purposes.

Restrooms

- ☐ Rooms cleaned and trash removed daily.
- ☐ Drains regularly cleaned with long-handled brush.
- ☐ Cracks and crevices in walls and floors sealed.
- ☐ Plumbing in good repair (no leaks, drips, clogged drains).

Custodial and Maintenance Areas/Duties

- ☐ Tasks requiring cleaning are clearly distinguished from disinfecting tasks and products used for routine cleaning do not contain disinfectants.
- ☐ Cleaning and disinfecting products are stored in secure areas inaccessible to children.
- ☐ Custodial products in aerosol containers are not used except for graffiti-removal products.
- ☐ Mops and mop buckets are properly dried and stored (e.g., mops hung upside down, buckets emptied).
- ☐ Trash/recycling rooms, compactors and dumpsters are regularly inspected and spills cleaned up and leaks repaired promptly.
- ☐ Indoor garbage is kept in lined, covered containers and emptied daily.
- ☐ Packing and shipping waste disposed of promptly.
- ☐ Stored waste is collected and moved off site at least once weekly.
- ☐ Recyclables are rinsed or stored in pest-proof containers and moved off site weekly.
- ☐ Vent or heater filters are cleaned or replaced as per manufacturer's recommended interval or more frequently.
- ☐ The inside of vents and ducts are inspected at least every three years and cleaned by a certified contractor when needed.
- ☐ Moisture sources are corrected (e.g., ventilate areas where condensation forms frequently, repair plumbing, roof leaks, dripping air conditioners).

School IPM Inspection Checklist (con't.)

Pest and Pesticide Risk Management

- ☐ Pesticides (including 'weed and feed' products, mold and mildew control products, disinfectants, rodent baits, ant baits, insecticides, plant disease control products, weed-killers and any other chemical intended to kill living organisms) are never applied in or on school grounds except by persons licensed and certified in the appropriate category by the Maine Board of Pesticides Control except when used for routine cleaning or for emergency protection from stinging insects.
- ☐ No pesticides are applied for pests causing aesthetic damage only.
- ☐ Pest monitoring and pest management records are kept in the school in an accessible location.
- ☐ Lesser risk options for pest management are used first when action is required.

If baits or traps of any kind are used:

- ☐ Each bait station or trap is assigned an identification number
- ☐ A map is prepared showing the location and identification number of each trap or bait placement.
- ☐ Each trap or bait station is marked with appropriate warning language.
- ☐ Bait stations are checked at least monthly
- ☐ Rodent traps are checked daily and captured rodents are removed immediately.
- ☐ All pesticides (including disinfectants) are properly stored in original containers in secured locations according to appropriate hazardous chemical safety protocol (e.g. flammables stored in fire-resistant cabinet, acids stored separately from bases, chlorine-containing chemicals not stored near acids or ammonia)
- ☐ Material Safety Data Sheets (MSDS) and labels for each pesticide and other hazardous chemical are maintained in an accessible location.
- ☐ Pesticides (including disinfectants) inventory is managed to track current stock use and to ensure proper disposal of unused materials and empties.

Outdoors

- ☐ Tree limbs at least 6 ft away from building
- ☐ Vegetation, shrubs, and bark mulch kept at least 12 inches from building.
- ☐ Exterior doors kept shut when not in use.
- ☐ Windows and vents screened or filtered and screens are in good condition.
- ☐ Weather stripping and door sweeps present and in good condition on exterior doors.
- ☐ Building eaves, walls, gutters and roofs are sound. No evidence of water leaks or holes.
- ☐ Cracks in foundation or walls, and openings around conduit, plumbing, and doorways are sealed.
- ☐ Garbage containers, compactors, and garbage storage are placed away from building entrances.
- ☐ Dumpsters placed on hard, cleanable surfaces.
- ☐ Dumpsters have close-fitting lids and are kept closed.
- ☐ Dumpsters are emptied weekly and cleaned regularly.

Sample IPM Pest Monitoring Log Sheet

Photocopy this and the following record sheets (or download it at www.thinkfirstspraylast.org/schoolipm) and place it in each school's IPM logbook to keep a record of pests captured in insect and rodent monitoring traps.

Month _____ School _____

Head Custodian _____

- Count each of the monitor traps in your school weekly (or as often as your school IPM plan calls for). Record the number and type of **new pests found** at each trap below. When a rodent (rat or mouse) is captured, begin checking, emptying, and recording traps in that room daily until no more rodents are captured for a week. At the end of the month, copy and forward this monitoring sheet to your IPM Coordinator.
- If any trap shows the presence of cockroaches, please call the IPM coordinator, _____.
- If any trap is damaged, lost, or full, replace it with a new dated and numbered trap.

Trap No.	Room Location	Date 1:	Date 2:	Date 3:	Date 4:	Date 5:
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Pest Sighting and Action Record

Date	Time	Specific Location	Pest	Number of Pests	Person Reporting	Recommended Action	Date Action Completed
Jan. 15 th , 2004	10:00a m	Storage cabinet in storage room between rooms 1 and 2.	Mouse droppings and holes gnawed into plastic bags of dry beans and candy used for class projects.	?	Teacher A	Place all food items in sealed jars (teacher A), clean up food spills and droppings, place snap traps in each of 2 locked monitoring boxes placed along wall under cabinets in storage room. Check traps daily. (custodian).	
	E	X A M	P L E				

Pest Sighting and Action Record

Date	Time	Specific Location	Pest	Number of Pests	Person Reporting	Recommended Action	Date Action Completed

Pesticide Application Log

Date	Time Start and Finish	Specific Location	Target Pest	Pesticide Product Name	EPA Reg. No.	Active Ingredient	Application Method	Concentration and amount	Applicator Name and license No.
9/25/02	6:00pm - 8:00 pm	Playground jungle gym	Yellow jacket wasps	Raid Wasp and Hornet Killer	4822-101	Propoxur Tetramethrin	Ready-to-use spray can	Full Strength Undiluted 5 sec. spray	Chris Staffmember
8/15/02	6:00am - 8:00 pm	Parking Lot	Dandelions, thistles, grass	Round-up Pro Concentrate	524-529	Glyphosate	Back pack sprayer	1 oz. (1 TBLS) in 1 gal. water. Applied 1 gal. of mix. to weeds in cracks.	John Smith Lawn & GroundsCare, Inc. Lic. # COA4433

Pesticide Application Log

Date	Time	Specific Location	Targeted Pest	Pesticide Product Name	EPA Reg. No.	Active Ingredient	Application Method	Concentration and amount	Applicator Name and license No.

Partial List of Pest Management Product Suppliers

NOTE: Pesticide use in schools is subject to federal and state laws. You must be licensed to apply ANY pesticides in schools. Contact the Maine Board of Pesticides Control (207-287-2731; www.thinkfirstspraylast.org) for more information. This list does not constitute an endorsement of any company or product listed, nor is it intended to be a comprehensive listing.

Where to find...	Vendors	Contact Info
General Supplies	<p>Gempler's - A variety of pest control equipment.</p> <p>Bio-Integral Resource Center (BIRC) - Non profit organization. \$15 charge for schools gets a manual and a list of 600 suppliers.</p>	<p>www.gemplers.com 1-800-332-6744 for a catalog.</p> <p>www.birc.org 510/524-2567 Fax 510/524-1758</p>
Mouse Traps and Locking Bait Boxes	<p>Bell Labs - Bell has developed a complete line of products - rodenticides, tamper-resistant bait stations, non-poisonous glue boards and mechanical mouse traps - to control rats and mice in any situation.</p> <p>Woodstream - alternative pest control products for insects and rodents.</p>	<p>www.belllabs.com 1-608-241-0202</p> <p>http://www.woodstreampro.com</p>
Insect Monitors and Traps	<p>UPMA Labs - For IPM Supplies to schools and other sensitive environments. These include well-packaged kits for training and monitoring.</p> <p>Residex - This company is a full service supplier for the pest management professional. They carry pesticides and other tools that are needed. They also have a MSDS and label database.</p> <p>BIOCONTROL NETWORK - Carry pantry traps, biological drain cleaners, fruit fly traps, and more.</p>	<p>www.ipmproducts.com</p> <p>www.residex.com 1-800-526-4222</p> <p>www.biconet.com</p>
Sealants and Caulks	Grainger - industrial equipment from adhesives to tools	http://www.grainger.com
Professional Pest Management Tools (Mirrors, Magnifying glasses)	Professional Equipment - tools for home inspectors, PCO's, and facility professionals including moisture meters, termite detection devices, and more.	www.professionalequipment.com

Cleaners	<p>American Bio-Systems - Biological pest controls.</p> <p>Biostim Inc. - Markets microbes that eat the fats, oils, greases and organics directly from your drains, drain lines, grease traps and septic systems.</p>	<p>www.bio-systems.com</p> <p>www.biostim.com</p>
Door Sweeps and Weather Stripping	Aubuchon Hardware - Has a good selection of replaceable door sweeps and possibly a local store.	www.aubuchonhardware.com
Bird Control	Bird-X - A variety of environmentally safe bird control devices.	www.bird-x.com
Grub Control	The Green Spot Ltd. - Beneficial nematodes for controlling lawn grubs, plus more.	www.greenmethods.com

Integrated Pest Management Resources

Location	Contact	Resource Area	Phone Number
Department of Agriculture	Kathy Murray	School IPM	1 207 287-7616
Board of Pesticides Control	Gary Fish	Licensing & Training	1 207 287-2731
University of Maine	Jim Dill	IPM Coordinator	1 800 287-0279
University of Maine	Clay Kirby	Insect Specialist	1 800 287-0279
University of Maine	Bruce Watt	Plant Disease Specialist	1 800 287-0279
University of Maine	Lois Stack	Horticulturist	1 800 870-7270
University of Maine		Soil Test Lab	1 207 581-2945
University of Maine	Don Barry	Structural Pests	1 800 287 0279
A&L Agricultural Labs		Soil Test Lab	1 804 743-9401
UNH	Stan Swier	Turf Insects	1 603 862-1733
UNH	John Roberts	Turf General	1 603 862-3200
U-Mass	Pat Vittum	Turf Insects	1 413 545-0268
U-Mass	Mary Owen	Turf IPM	1 508 892-0382
URI	Noel Jackson	Turf Disease	1 401 792-2932

ON THE WEB

Resource	URL
School IPM Web Site	http://www.thinkfirstspraylast.org/schoolipm
Board of Pesticides Control	http://www.thinkfirstspraylast.org
UMCE Pest Management Office	http://www.umext.maine.edu/topics/pest.htm
Univ of Minnesota Sustainable Lawn Care	http://www.sustland.umn.edu/maint/maint.htm
Center for Urban Ecology - Low Input Lawn Care	http://www.extension.umn.edu/distribution/horticulture/DG7552.html
Brooklyn Botanic Garden - Easy Lawns: Low Maintenance Native Grasses	http://www.bbg.org/gar2/topics/sustainable/handbooks/lawns/index.html
Univ of Minnesota - Thatch Control in Lawns & Turf	http://www.extension.umn.edu/distribution/horticulture/DG1123.html
Lawn Care Practices to Reduce the Need for Fertilizers and Pesticides	http://www.extension.umn.edu/distribution/horticulture/DG5890.html
Univ of Massachusetts Agroecology Program	http://www.umass.edu/umext/programs/agro/
Guelph Turfgrass Institute Links Page	http://www.uoguelph.ca/GTI/linkfram.htm
The Ultimate Turfgrass Links Page -UTLP	http://www.msu.edu/user/karcherd/turflinks/
The Pest Web	http://www.pestweb.com
Purdue University Urban IPM Site	http://www.ipm.uiuc.edu/urban/
National IPM Network Search Engine	http://search.ipm.iastate.edu/
The IPM Institute	http://www.ipminstitute.org

BOOKS

Pesticide Applicator Manuals for pest control in these categories: Turfgrass, Outdoor Ornamental, General Structural, Institutional Industrial, Commercial Industrial, & Municipal Vegetation	1-800-287-0279
Outdoor IPM for Maine Schools (Maine Department of Agriculture, Food, and Rural Resources publ.)	Download at: www.thinkfirstspraylast.org/schoolipm or order printed copy by calling 207-287-7616
IPM for Northeast Schools (NRAES Publ.)	Call 207-287-7616 to order copies

Chapter 27: STANDARDS FOR PESTICIDE APPLICATIONS AND PUBLIC NOTIFICATION IN SCHOOLS

SUMMARY: These regulations establish procedures and standards for applying pesticides in school buildings and on school grounds. This chapter also sets forth the requirements for notifying school staff, students, visitors, parents and guardians about pending pesticide applications.

Section 1. Definitions

- A. Integrated Pest Management. For the purposes of this regulation, Integrated Pest Management (IPM) means the selection, integration and implementation of pest damage prevention and control based on predicted socioeconomic and ecological consequences, including:
- (1) understanding the system in which the pest exists,
 - (2) establishing dynamic economic or aesthetic injury thresholds and determining whether the organism or organism complex warrants control,
 - (3) monitoring pests and natural enemies,
 - (4) when needed, selecting the appropriate system of cultural, mechanical, genetic, including resistant cultivars, biological or chemical prevention techniques or controls for desired suppression, and
 - (5) systematically evaluating the pest management approaches utilized.
- B. School. For the purposes of this regulation, School means any public, private or tribally funded:
- (1) elementary school,
 - (2) secondary school,
 - (3) kindergarten or
 - (4) nursery school that is part of an elementary or secondary school.
- C. School Building. For the purposes of this regulation, School Building means any structure used or occupied by students or staff of any school.
- D. School Grounds. For the purposes of this regulation, School Grounds means:
- (1) land associated with a school building including playgrounds, athletic fields and agricultural fields used by students or staff of a school, and
 - (2) any other outdoor area used by students or staff including property owned by a municipality or a private entity that is regularly utilized for school activities.

E. Integrated Pest Management Coordinator. An employee of the school system or school who is knowledgeable about integrated pest management and is designated by each school to implement the school pest management policy.

Section 2. Requirements for All Schools

A. All public and private schools in the State of Maine shall adopt and implement a written policy for the application of Integrated Pest Management techniques in school buildings and on school grounds.

B. Each school shall appoint an IPM Coordinator who shall act as the lead person in implementing the school's Integrated Pest Management policy. The IPM Coordinator shall be responsible for coordinating pest monitoring and pesticide applications, and making sure all notice requirements as set forth in this chapter are met. In addition, the IPM Coordinator shall maintain and make available to parents, guardians and staff upon request:

- (1) the school's IPM Policy,
- (2) a copy of this rule (CMR 01-026 Chapter 27),
- (3) records of all pesticide applications as required under CMR 01-026 Chapter 50 – Record Keeping and Reporting Requirements,
- (4) copies of labels and material data safety sheets for all products applied, and
- (5) when pesticides not exempt under Section 3 are applied, records of the IPM steps taken as described in Section 5.B. of this chapter.

C. Each school shall provide an annual notice to parents or guardians and school employees. This notice must be provided within two weeks of the start of the school year regardless of whether there are plans to have pesticides applied in the coming year.

Section 3. Exemptions

A. The following pesticide uses are exempt from the requirements of Section 4 and 5 of this Chapter:

- (1) application of ready-to-use general use pesticides by hand or with non-powered equipment to control or repel stinging or biting insects when there is an urgent need to mitigate or eliminate a pest that threatens the health or safety of a student, staff member or visitor,
- (2) application of general use antimicrobial products by hand or with non-powered equipment to interior or exterior surfaces and furnishings during the course of routine cleaning procedures, and
- (3) application of paints, stains or wood preservatives that are classified as general use pesticides.

B. The following pesticide uses are exempt from the requirements of Section 4 of this Chapter:

- (1) pesticides injected into cracks, crevices or wall voids,

- (2) bait blocks, gels, pastes, granular and pelletized materials placed in areas inaccessible to students,
- (3) indoor application of a pesticide with no re-entry or restricted entry interval specified on its label but entry to the treated area is restricted for at least 24 hours.

Section 4. Notification

A. Within two weeks of the start of every school year, notice shall be given by all schools to all school staff and parents or guardians of students advising them that a school integrated pest management policy exists and where it may be reviewed, that pesticides may periodically be applied in school buildings and on school grounds and that applications will be noticed in accordance with Sections 4(B-D) hereof. This notice shall also state that records of prior pesticide applications and labels and material safety data sheets for the pesticides used and a copy of the Standards for Pesticide Applications and Public Notification in Schools regulation (CMR 01-026 Chapter 27) are available for review.

B. Notices given as required by Section 4C shall state, as a minimum: (a) the trade name and EPA Registration number of the pesticide to be applied; (b) the approximate date and time of the application; (c) the location of the application; (d) the reasons for the application; and (e) the name and phone number of the person to whom further inquiry regarding the application may be made. These notices must be sent to school staff and parents or guardians of students at least five days prior to the planned application.

C. During the school year when classes are regularly scheduled, schools shall provide notice of pesticide applications in accordance with either Section 4C(1) or 4C(2) and with Section 4C(3). When classes are not regularly scheduled, notice shall be accomplished by posting of signs as described in Section 4C(3) of this rule.

- (1) Notice may be given to school staff and parents or guardians of students using a school whenever pesticide applications not exempted by Section 3 are performed inside a school building or on the school grounds, or

(2) The school may establish a notification registry whereby persons wishing notification of each application performed inside a school building or on school grounds may make a written request to be put on the registry list to receive notice whenever pesticide applications not exempted by Section 3 are performed.

(3) In addition to the notice provisions above, whenever pesticide applications not exempted by Section 3 are performed in a school building or on school grounds, a sign shall be posted at each point of access to the treated area and in a common area of the school at least two working days prior to the application and for at least forty-eight hours following the application. Posting of the notification signs as required by this Chapter satisfies the posting requirements of Chapter 28 of the Board's regulations.

a. The signs shall be:

- i. at least 8.5 inches wide by 11 inches tall for indoor applications,
- ii. at least 5 inches wide by 4 inches tall for outdoor applications,
- iii. made of rigid, weather resistant material that will last at least ninety-six (96) hours when placed outdoors, and
- iv. light colored (white, beige, yellow or pink) with dark, bold letters (black, blue, red or green).

- b. The signs for indoor applications must bear:
 - i. the word CAUTION in 72 point type,
 - ii. the words PESTICIDE APPLICATION NOTICE in 30 point type or larger,
 - iii. any reentry precautions from the pesticide labeling in at least 12 point type,
 - iv. the trade name and EPA Registration number(s) of the pesticide(s) to be applied in at least 12 point type,
 - v. the approximate date and time of the application in at least 12 point type,
 - vi. the location of the application in at least 12 point type,
 - vii. the reason(s) for the application in at least 12 point type, and
 - viii. the name and phone number in at least 12 point type of the person to whom further inquiry may be made regarding the application.
- c. The signs for outdoor applications must bear:
 - i. the word CAUTION in 72 point type,
 - ii. the words PESTICIDE APPLICATION in 30 point type or larger,
 - iii. the Board designated symbol (see appendix A),
 - iv. any reentry precautions from the pesticide labeling in at least 12 point type,
 - v. the trade name and EPA Registration number(s) of the pesticide(s) to be applied in at least 12 point type,
 - vi. the approximate date and time of the application in at least 12 point type,
 - vii. the location of the application in at least 12 point type,
 - viii. the reason(s) for the application in at least 12 point type, and
 - ix. the name and phone number of the person to whom further inquiry regarding the application may be made in at least 12 point type.

Section 5. Integrated Pest Management Techniques

- A. All pest management activities should be conducted using appropriate elements of integrated pest management as described in the latest Cooperative Extension or Department of Agriculture training manuals for pest management in and/or on school property. In all cases, the application should be conducted in a manner to minimize human risk to the maximum extent practicable using currently available technology.

B. Prior to any pesticide application the following steps must be taken and recorded:

1. monitor for pest presence or conditions conducive to a pest outbreak,
2. identify the pest specifically,
3. determine that the pest population exceeds acceptable safety, economic or aesthetic threshold levels, and
4. utilize non-pesticide control measures that have been demonstrated to be practicable, effective and affordable.

C. When a pesticide application is deemed necessary, the applicator must comply with all the requirements of Chapter 31 – Certification and Licensing Provisions/Commercial Applicator. The applicator must also take into account the toxicity of recommended products and choose lowest risk products based on efficacy, the potential for exposure, the signal word on the pesticide label, the material safety data sheet, other toxicology data and any other label language indicating special problems such as toxicity to wildlife or likelihood of contaminating surface or ground water.

D. Indoor pesticide use must be limited to placement of baits and wall void or crack and crevice and pool and spa disinfectant treatments unless the pest threatens the health and safety of persons in the buildings as determined by the school's integrated pest management coordinator.

E. Pesticide applications must not be conducted when people are in the same room to be treated except that applicators may set out bait blocks, pastes or gels when only informed staff members are present. When space, spot, surface or fumigation applications are conducted the ventilation and air conditioning systems in the area must be shut off or the entire building must be evacuated. Applications should be planned to occur on weekends or vacations to allow maximum time for sprays to dry and vapors to dissipate.

F. Outdoor applications should be scheduled so as to allow the maximum time for sprays to dry and vapors to dissipate and shall not occur when unprotected persons are in the target area or in such proximity as to likely result in unconsenting exposure to pesticides. Applications must also be conducted in accordance with all other applicable Board regulations designed for minimizing pesticide drift and posting of treated sites. Spot treatments should be considered in lieu of broadcast applications.

G. The Integrated Pest Management Coordinator must maintain records of pest monitoring as well as the same pesticide application information required in Section 1.A. of Chapter 50–Record Keeping & Reporting Requirements for a period of two years following all pesticide applications performed along with the labels and material safety data sheets for all products used in or on school property.

STATUTORY AUTHORITY: 7 M.R.S.A. §§ 601-625 and 22 M.R.S.A. §§ 1471-A-X.

EFFECTIVE DATE: August 30, 2003, filing 2002-408 accepted October 24, 2002.

AMENDMENT EFFECTIVE: July 5, 2005 – filing 2005-266

**Board Designated Symbol for Posting Outdoor Pesticide Applications to School
Grounds**



Lead Paint Management

I. Why we are concerned about lead in/at schools

It takes very little lead to poison a young child. Children under six years of age are most vulnerable to lead poisoning because their bodies retain most of the lead they ingest or inhale, and their nervous systems are growing very rapidly. A child can be lead poisoned and not show any immediate symptoms, but can suffer severe and permanent damage including decreased growth, hyperactivity, impaired hearing, behavioral problems and learning disabilities.

Most children are poisoned by dust from lead paint. This dust gets into their environment when lead paint deteriorates and when friction from the opening of windows and doors creates lead dust. A lot of lead dust can get into the environment from renovation, repair, repainting and maintenance projects that disturb lead-based paint. Lead was banned from paint sold for residential use in 1978, so it was unlikely to be used in newer schools. Schools built before 1978 are likely to have old lead paint, and may have lead-contaminated soils next to the school building. **Schools that perform routine maintenance to keep all painted surfaces in good condition and use lead-safe work practices when performing renovations and repainting activities reduce the likelihood of students being exposed to lead hazards.**

II. State and federal laws and rules that affect lead management at schools

Three state agencies administer laws and rules that affect how schools should manage lead base paint at their facilities.

- The Maine Department of Environmental Protection administers 38 MRSA § 1291 *et. seq.*, *Lead Abatement*. The law and Ch. 424, Lead Management Regulations, make a distinction between *abatement* and *renovation and remodeling*. The law and rules impose stringent requirements on abatement projects and recommend best management practices for renovation and remodeling activities.

“Abatement” means any measure or set of measures designed to permanently eliminate lead-based paint hazards. Abatement includes, but is not limited to:

A. The removal of lead-based paint and lead-contaminated dust, the permanent enclosure or encapsulation of lead-based paint, the replacement of lead-painted surfaces or fixtures and the removal or covering of lead-contaminated soil; and

B. All preparation, cleanup and post-abatement clearance testing activities associated with such measures.

“Abatement” does not include renovation and remodeling as defined below. For purposes of this definition, “permanently” means for at least 20 years.

Schools that are planning to do abatement to permanently eliminate lead hazards must follow the DEP regulations established in Ch. 424. A school would undertake an abatement project if

1. required to do so by an enforcement action;
2. it received a grant to do so; or
3. the permanent removal of a lead hazard was the principal reason for the project.

Most lead paint work done at a school would fall under the category of renovation and remodeling. In this case a school might undertake a replacement or reconstruction project with the primary intent to repair, restore or remodel. The project may incidentally result in the reduction of lead paint hazards. 38 MRSA § 1296 requires anyone doing renovation, repair, maintenance or repainting work to take all reasonable precautions to prevent the release of lead to the environment. It defines activities that may result in the release of lead to the environment to include, but not be limited to, the removal of lead-based paint by using open-flame burning or torching, machine sanding or grinding without high-efficiency particulate exhaust control, uncontained hydroblasting or high-pressure washing, abrasive blasting or sandblasting without containment and high efficiency particulate exhaust control, and using heat guns operated above 1100 degrees Fahrenheit.

The Maine DEP also regulates hazardous waste management and disposal (Statutory authority 38 MRSA Section 1301 *et. seq.*, Hazardous Waste Management Rules Ch. 850-857). Lead paint removal may generate hazardous waste with lead and/or hazardous paint removal chemicals.

- The Maine Bureau of Health administers 22 MRSA § 1314 *et. seq.*, *Lead Poisoning Control Act*. The Bureau of Health has the authority to inspect classrooms that children under six regularly visit as part of an investigation into a case of childhood lead poisoning. If lead hazards are found, the Bureau is required to order the owner of the building to abate the lead hazards.
- The Department of Labor, Bureau of Labor Standards (DOL/BLS) administers the *Occupational Safety and Health Act* (OSHA) of 1970 for public sector employees (effective April 28, 1971. Public law 91-596, found in 29 CFR 1910, 1915, 1918, 1926.). School personnel involved in a project that disturbs lead-based paint, depending on the amount of the work and how it is performed, may be subject to the following OSHA standards:
 - 29 CFR 1926.62 (Lead in Construction),
 - 29 CFR 1910.134 (Respiratory Protection),
 - 29 CFR 1910.1020 (Access to Exposure and Medical Monitoring),
 - 29 CFR 1926.59 and 1910.1200 (Hazard Communication), and
 - 29 CFR 1910.1025 (Lead in the art room or technology trades)

Typically if more than 2 square feet of lead contaminated surface are disturbed, an increased degree of protection is usually needed and the OSHA standards apply.

III. Actions needed to be in compliance with the laws and rules

- DEP Lead Management Regulations, Ch. 424 for Abatement: A school must hire a licensed lead abatement contractor to conduct the abatement. Most of the requirements fall on the contractor, although the school is ultimately responsible for having the work done correctly. A school may also want to hire a licensed lead inspector, risk assessor or a design consultant. These are people who have completed various levels of training concerning identification of lead hazards and abatement options that can reduce or eliminate those hazards. They will provide the school with a report that details all aspects of the abatement project. The design consultant will also monitor the work of the abatement contractor.
- DEP Lead Management Regulations, Ch. 424 for Renovation and Maintenance: To achieve compliance, schools must ensure that maintenance and renovation activities do not release lead to the environment. If a school is doing a renovation or remodeling job that will disturb more than 2 square feet of interior surface containing lead paint or more than 10 square feet of exterior surface, lead safe work practices must be used. (See enclosed brochure for detailed work practices). The school can either hire a contractor to do the work, or use its own building maintenance staff. In either case it is advisable to make sure those doing the work have attended the DEP free one-day 'Lead-Smart Renovator' program. Besides best work practices, this program also covers what is needed for OSHA compliance when doing work with lead hazards.

The DEP requires that any hazardous waste generated from lead paint abatement or removal be managed as hazardous waste. See section on Hazardous Waste Management beginning on page 87 and talk to your staff/contractor about his/her plans for disposal.

- The Maine Bureau of Health 22 MRSA § 1314 et. seq., Lead Poisoning Control Act does not require any action on the part of a school concerning lead hazards. The law gives the Bureau of Health certain responsibilities and authority. This law would only come into play at a school if the bureau identified a lead poisoned child and determined that part or all of the lead exposure was due to the school environment. In that circumstance, the bureau could order the school to do lead abatement.
- The Department of Labor, Bureau of Labor Standards (DOL/BLS) the Occupational Safety and Health Act (OSHA) rules would apply if the school is using its own maintenance staff to do the renovation/remodeling work. Schools would then need to protect the workers according to OSHA standards. Since these standards are complicated, it is recommended that schools wanting to do their own work have their maintenance staff take the 'Lead-Smart Renovators' training offered by MeDEP and MSHA.

IV. Resources

The State of Maine has a goal of eliminating childhood lead poisoning by the year 2010. To achieve this, the State has established programs to prevent the exposure of children to lead hazards and to provide families with medical case management if their children are poisoned.

- **DEP Lead Hazard Prevention Program (1-800-452-1942)**
<http://www.maine.gov/dep/rwm/lead/index.htm>
 - Certifies lead inspectors, risk assessors, design consultants, abatement supervisors and workers for work in residential and child-occupied facilities.
 - Licenses lead abatement contractors and lead training providers.
 - Sets lead abatement work practice standards.
 - Performs quality assurance audits and compliance inspections on all lead professionals.
 - Provides lead hazard prevention education and technical assistance to the public.
 - Provides lead-safe work practices information to contractors and the general public.
 - Enforces 38 MRSA §1296; this law requires everyone who impacts lead-based paint to take all reasonable precautions to prevent the release of lead to the environment.

Maintenance personnel can also learn about lead-safe work practices through review of written literature available from the Maine DEP (the “Keep It Clean” brochure and the “Reducing Lead Hazards When Remodeling Your Home” booklet). There is also a one day Lead-Smart (or Lead-Safe) Renovator training that staff can take at no- or low-cost. Check with the DEP at 1-800-452-1942 and with the Maine State Housing Authority at 1-800-452-4668 to find out if there are any courses currently scheduled.
- **DHS Childhood Lead Poisoning Prevention Program (1-207-287-4311)**
<http://www.maine.gov/dhs/bohdcfh/led/index2.htm>
 - Receives results of all blood lead tests conducted in Maine.
 - Conducts environmental case management, including environmental investigations, for all lead poisoned children.
 - Oversees medical case management of all lead poisoned children.
 - Provides education on lead poisoning prevention and medical counseling to families with children with elevated blood lead levels.
 - Provides lead poisoning prevention education and technical assistance to the medical community and the public.
- **MSHA Lead Hazard Reduction Program (1-800-452-4668)**
<http://www.mainehousing.org/homerepair.html>
 - Maine Lead-Smart Renovator training programs
 - Grants and low-interest loans for lead inspections and lead abatement in low-income homes.
 - Program administered through four Community Action Agencies.
- **Maine Department of Labor, Bureau of Labor Standards (1-207-624-6400)**
<http://www.maine.gov/labor/bls/>
 - Administers public sector workplace health and safety laws.

Helpful Web Addresses

U.S Environmental Protection Agency www.epa.gov/lead/leadpbed.htm
Center for Disease Control and Prevention www.cdc.gov/nceh/lead/lead.htm
Alliance to End Childhood Lead Poisoning www.aecdp.org
H.U.D. Office of Healthy Homes and Lead Hazard Control www.hud.gov/offices/lead/
The Maine Lead Action Project <http://www.maineleadaction.org/>
Alliance for Healthy Homes <http://www.afhh.org/>

Mercury

I. Why we are concerned about mercury in schools: Mercury is toxic, especially to children. It can cause damage to the nervous system, kidneys, liver and immune system. Elemental mercury is volatile and can evaporate at room temperature. Schools are places where children and mercury can come together. Mercury exposures in schools usually come from breathing mercury vapors from an accidental spill or leak. Over a dozen Maine schools have experienced mercury spills in the last two years. As a result, school rooms have been closed, staff sent home, and clean-up costs have ranged from \$800 to over \$20,000. The Maine Department of Environmental Protection (DEP) has had a program to remove mercury from schools and has recovered an average of nine pounds of mercury and mercury compounds per school. Mercury can be found in the science room, nurse's station, kitchen, and maintenance areas.

II. State laws and rules that affect mercury in schools

The Maine legislature passed 38 MRSA §§ 1661 et seq., *Mercury-Added Products and Services*. The law has provisions that may impact a school, including

“§ 1661-C. Restrictions on sale and use of mercury

3. Schools. Effective January 1, 2002, bulk elemental or chemical mercury or mercury compounds may not be sold for use in a primary or secondary classroom in the State....”

The law, which has been amended several times, also prohibits the sale of mercury-added products, including mercury thermometers, thermostats, instruments and measuring devices, and switches and relays in Maine after specific dates. The prohibition applies to the sales of these products to everyone in Maine, not just schools.

Schools usually have several mercury-added products that, once they become waste, need to be managed as either universal wastes or hazardous wastes. These products include:

Location	Universal Waste	Hazardous Waste
School wide	Lamps, including fluorescent, mercury vapor, high pressure sodium and metal halide lamps.	Mercury spill and clean-up materials
School wide	Mercury thermostats	
School wide	Mercury switches and relays	
Kitchen, boiler room, maintenance areas	Mercury thermostat probes and flame sensors in gas appliances such as gas stoves and commercial hot water heaters	
Nurses station	Mercury thermometers and blood pressure cuffs	
HVAC lab/ voc tech	Mercury vacuum gauges (U-tubes)	
Science areas	Mercury scientific instruments such as barometers, sling psychrometers, thermometers, and molecular motion demonstration devices.	Elemental mercury and mercury compounds

III. Actions needed to be in compliance with the laws and rules

The Maine Hazardous Waste rules, Chapter 850 et seq. applies to the management of mercury, mercury compounds and mercury-added products. As the chart above indicates, most of the mercury found in schools is in mercury devices and scientific equipment and therefore can be managed as universal waste. For management information see the chapter on universal waste, starting on page 151. Elemental mercury, mercury compounds and mercury spill material must be managed as hazardous waste and the reader is referred to the chapter on hazardous waste.

IV. Best management practices and recommendations

- **Do a mercury audit:** It is strongly recommended that school personnel conduct a mercury audit and document where all mercury-containing equipment and products are located. An audit form is included in this chapter. (See pages 143-148.) The completed audit form should be on file in two known locations, typically the main office and facility maintenance office. After inspecting the equipment, schools may want to put a sticker or some designation on it so that upon replacement, the mercury switch etc. can be recovered for recycling.
- **Eliminate mercury and mercury-added products:** It is best to get rid of mercury or mercury-added products whenever feasible. There are good non-mercury replacements for all mercury-added products except lamps. There are also non-mercury alternatives for use in science experiments that might otherwise use elemental mercury or mercury compounds, and for art paints and kitchen supplies. (See audit form.)
- **Train and equip your staff for mercury releases:** Schools may always have to deal with mercury, at least in lamps, and lamps do break! After identifying where mercury is, a school should develop a plan for dealing with all mercury releases. A generic 'spill' plan has been developed for use by schools as a model and is included on page 148.

V. Resources

Hub sites for mercury information:

- www.newmoa.org/prevention/mercury
- <http://www.epa.gov/mercury/>
- <http://www.mass.gov/dep/bwp/hgres.htm>
- <http://www.mass.gov/dep/files/mercury/hgtoc.htm>
- <http://www.anr.state.vt.us/dec/ead/mercury/merc.htm>

Mercury and Schools (hub sites for school information)

- <http://www.epa.gov/epaoswer/hazwaste/mercury/school.htm>
- <http://www.newmoa.org/prevention/topichub/toc.cfm?hub=501&subsec=7&nav=7>

Fish Advisories (hub site for national fish advisory listings)

- <http://www.epa.gov/ost/fish/states.htm>

Mercury spills: Call DEP at (800) 452-4664.

If human contact with elemental mercury occurs, call the Maine Poison Control Center at (800) 442-6305.

For free assistance with mercury issues and audits, call the Maine DEP at 287-2651 and ask for the School Chemical and Mercury Assistance Program.

Identification of Mercury Devices in School Facilities

Please use this table to help you identify and locate mercury-containing products in school facilities. We recommend that you keep a record of mercury-containing equipment or place a tag on the equipment, indicating that it contains mercury and must be properly disposed of. Inventorying your mercury-containing equipment can help you remember to handle this equipment as hazardous waste when the time comes to replace or service it. *Audit form credited to the Northeast Waste Management Officials Association.*

	FACILITIES		
Item	(1) Do You Have Any? Yes No		(2) Location of items
Fluorescent lamps			Low-mercury fluorescent lamps are available (identified by green ends) but must still be recycled.
Mercury Thermostats			Non-mercury sealed switches, and programmable and non-programmable electronic . All Maine HVAC wholesalers collect mercury thermostats for recycling.
Mercury Vapor			
Lamps, Metal Halide			Sylvania makes a non-mercury, high-pressure sodium
Lamps, High-			lamp called Lumalux. (Mercury vapor lamps are the
Pressure Sodium			oldest and least efficient high-intensity discharge lamp.)
Vapor Lamps			
Mercury Gauges			Depends on the application.
			Light switches no longer contain mercury. Manufactured
"Silent light" switches			prior to 1991, mercury light switches look like typical wall switches, but they do not make the audible "click"
			sound when activated
Mercury Float Control Switches (e.g. on Sump Pumps)			Non-mercury alternatives are available. For more information, see: http://abe.www.ecn.purdue.edu/~mercury/src/devicepage.htm#mcs
Flow Meters with mercury switches			For most uses, your supplier will have a non-mercury model.

FACILITIES continued				
Item	(1) Do You Have Any ?		(2) Location of items	(3) Non-Mercury Replacements
	Yes	No		
Other equipment with mercury switches (e.g., flame sensors, fire alarms, safety valves)				<p>Non-mercury alternatives are available such as hard-contact switches, solid-state switches, electro-optical switches, inductive sensors, capacitive sensors, photoelectric sensors, and ultrasonic sensors. For more information, see:</p> <p>http://abe.www.ecn.purdue.edu/~mercury/src/devicepage.htm</p> <p>http://216.239.33.100/search?q=cache:tZNhIDsKYIsC:www.informinc.org/fsmercaltts.pdf+non-mercury+flow+meter&hl=en&ie=UTF8</p>
Old fungicides and pesticides (prior to 1991)				Some old pesticides had mercury. You must dispose of pesticides as Hazardous Waste.

Name: _____

E-mail: _____

Title: _____

School Name: _____

Phone: _____

Fax: _____

Identification of Mercury Devices in School Science Rooms

Please use this table to help you identify and locate mercury-containing products in science classrooms and labs. Please indicate on the following list (1) whether you have any of these mercury-containing items, (2) the total number or amount of each item that you currently use and/or store, and the number of replacement items you might need, and (3) the location of both used and/or stored items. The last column lists possible non-mercury replacement products.

SCIENCE ROOMS						
Item	(1) Do you have any?		(2) Usage/Replacement		(3) Location of items	Non-Mercury Replacements
	Yes	No	#/amount of Item	# replacements needed		
Elemental Mercury						None
Mercury Lab Thermometer						Alcohol and mineral spirits glass bulbs, and digital
Mercury Barometer						Aneroid and digital; new liquid one being developed
Mercury Hygrometer						Spirit-filled glass bulb, digital and aneroid
Mercury Hydrometer						
Mercury Vacuum Gauge						
Hg Spectral Tube						16 alternative gases are available
Mercury Molecular Motion Device						
Mercury Sling Psychrometer						Mineral spirits glass bulb thermometers, some can fit in old frames

SCIENCE ROOMS continued						
Item	(1) Do you have any?		(2) Usage/Replacement		(3) Location of items	Non-Mercury Replacements
	Yes	No	#/amount of Item	# replacements needed		
Mercury (II) sulfate						Silver nitrate/potassium/chromium (III) sulfate
Mercury(II) oxide,						Copper catalyst
mercury(II) chloride						Magnesium chloride, sulfuric acid or zinc formalin, freeze drying
Zencker's solution						Zinc formalin
Mercury iodide						Phenate method
Mercury nitrate						Ammonia/coppersulfate
Mercury Gas Law Apparatus						A simple Charles' Law Apparatus may suffice.
Other mercury-containing instruments:						

Contact Information

Name: _____

Title: _____

Phone: _____

Fax: _____

Identification of Mercury Devices in School Medical, Home Economic, Art and Other Rooms

Please use this table to help you identify and locate mercury-containing products in School Medical, Home Economic, Art and Other Rooms. Please indicate on the following list (1) whether you have any of these mercury-containing items, (2) the total number or amount of each item that you currently use and/or store, and the number of replacement items you might need, and (3) the location of both used and/or stored items. The last column lists possible non-mercury replacement products.

Medical, Home Economic, Art & Other						
Item	(1) Do you have any?		(2) Usage /Replacement		(3)Location of Items	Non-mercury Alternatives
	Yes	No	# / Amount on hand	# Replacements		
Mercury Fever Thermometer						Digital, glass bulb non-mercury (gallium, indium, tin), and tympanic
Sphygmomanometer (Blood Pressure Device) -with silver liquid, hand-held unit, mobile unit, or wall unit						Aneroid and digital.
Mercury thermometer for freezers, refrigerators, and incubators						Spirit filled thermometers
Mercury Cooking Thermometer (with the silver liquid)						Spirit-filled glass bulb, and digital

MEDICAL, HOME ECONOMICS & ART, OTHER						
Item	(1) Do You Have It (Them)?		(2) Usage/Replacement		(3) Location of item	Non-Mercury Replacements
	Yes	No	#/ amount on hand	#replacement needed		
True Vermillion Paint (contains mercuric sulfide)						Request mercury-free vermilion paints, but be aware that these paints may contain other hazards, such as cadmium.
Cadmium Vermillion Red						Same as above.
OTHER						
Mercury Oxide or Mercury Zinc Batteries (old alkaline type, prior to 1996) and Button Batteries						No alternatives available for button batteries. Newer alkaline batteries don't contain mercury except small cylindrical 6, 9 or 12 volt.

Contact Information

Name: _____

Title: _____

Phone: _____

Fax: _____

email _____

MERCURY SPILL CLEAN-UP

CAUTION! Special Precautions for Mercury Spills:

Mercury Containing Instruments: Due to the need for specialized equipment and testing of the contaminated area, it is recommended that a professional environmental contractor be hired for the cleanup of any liquid mercury spill such as breakage of a laboratory instrument or a thermostat.

For the Clean-up of Incidental Lamps: When lamp or CRT breakage occurs, the immediate area should be blocked off. If possible, ventilation of the area should be increased. There are spill kits on the market that can be purchased or you may also put your own kit together. (See the next page for a list of what should be in your clean up kit.)

- **Avoid skin contact with breakage materials.**
- **Do not use a vacuum when cleaning up.** The use of a vacuum on lamp breakage may cause mercury to be dispersed into the air and to stick to the metal parts in the vacuum motor. This could cause mercury to be discharged every time the vacuum is used. This poses a serious health problem and should be avoided. In addition, the vacuum will have to be decontaminated or discarded due to mercury contamination. Special vacuums are available from environmental contractors that may be used on a mercury spill.
- Always wear safety glasses and disposable rubber gloves when cleaning up breakage. All items except safety glasses (i.e. brooms, shovels, scoops, tape, gloves, sponges, rags, etc.) used to clean up breakage should be considered contaminated and must be disposed of as hazardous waste.
- Place the broken items in an appropriate container i.e. sealable plastic bag and then in a sealable plastic or metal container. Place other clean-up materials (sponge, tape, rags, gloves etc.) in the container;
- Wipe the spill area thoroughly with a wet sponge.
- Seal the container(s), date and label as 'Hazardous Waste Mercury Spill Materials' and store as hazardous waste for disposal.
- Thoroughly wash your hands and face after cleaning up any breakage. Clothing worn during spill cleanup should be washed immediately without other clothes in the washing machine.

Reporting Requirements: All spills/discharges of liquid mercury must be reported to the DEP immediately. Report any mercury spill to the Department's spill hotline at:

1-800-452-4664.

Mercury Spill Kit

What you will need to make up your own spill kit:

1. Eye protection such as safety goggles
2. Flashlight
3. Sponges
4. Steel wool pad
5. Latex dish washing gloves
6. Thinner gloves that come in a box of 100 (cheap!)
7. Roll of masking tape
8. Two stiff pieces of paper, about 5 ½" x 8"
9. An eyedropper
10. A wisk broom – the smaller the better
11. A one gallon size container with a lockable lid
12. A smaller container with a good sealable lid
13. A magic marker or pen
14. A Universal Waste or Hazardous Waste label
15. A copy of the one page spill clean-up plan

Nice to have but not necessary: Indicator powder

Containers and indicator powder can be ordered from an industrial supply catalog such as Lab Safety – 1-800-356-0783. Other companies can be found on the web.

Universal Waste Management

I. Why we are concerned about universal waste management: Universal wastes (uw) are hazardous wastes that contain mercury, lead, other heavy metals and/or other toxins. They are generated by everyone, including schools. They include:

- ✓ Cathode ray tubes (CRTs) in computer monitors and TVs
- ✓ Fluorescent, high intensity discharge, neon, high pressure sodium, metal halide and mercury vapor lamps (LED and incandescent lamps are **not** included).
- ✓ Most batteries other than alkaline or car batteries
- ✓ Mercury devices including medical and scientific instruments, including thermometers, blood pressure cuffs and wall barometers
- ✓ Mercury thermostats
- ✓ Non-leaking polychlorinated biphenyls (PCB) ballasts
- ✓ Mercury switches and relays.

When broken or improperly disposed of, the hazardous components are released to the environment where they can cause serious environmental and human health problems. Children are particularly vulnerable. One Maine school spent almost \$20,000 to clean up a mercury spill from a broken barometer and the school was closed for two days while being cleaned up. By properly managing universal wastes, schools can avoid dangerous exposures and prevent costly cleanups.

II. State laws and rules that affect universal waste management at schools

- The Department of Environmental Protection (DEP) regulates the management of universal wastes. 38 MRSA §1319-0 1F required the department to adopt universal waste rules. The department did so in Chapter 850, 3A(13) of the Maine Hazardous Waste Management Rules.

Note: Large quantity universal waste generators = LUWG generates or accumulates more than 200 universal waste at any one time or in any month.

Small quantity universal waste generators = SUWG generates or accumulates less than 200 universal waste at any one time or in any month.

III. Actions needed to be in compliance with the universal waste rules. (Ch. 850(3)(A)(13)).

Boxes shaded in gray indicate responses that are in compliance with a rule or recommendation.

Requirement	Action	Yes	No
Storage	Is there a designated storage site for the campus?		
	Does the site have an State ID number (LUWG only)		
	Are all universal wastes stored inside and kept dry?		
	Is the storage area locked when not in use?		
	Is there a "Universal Hazardous Waste Storage" sign?		
	Are storage containers appropriate, in good condition; and closed when not being added to?		
	Are containers labeled with contents and date first items went in (accumulation start date)?		
	Are any start dates over one year?		
	Are containers labeled with the date they became full?		
	Are there any full dates over 90 days?		
	Are containers sealed when full or after incidental breakage?		
	Are packing materials adequate to prevent breakage?		
	Are containers stacked higher than 5 feet?		
	Is there adequate aisle space and are all containers easily inspected?		
	Is there a weekly inspection record with a cumulative universal waste number count? (LUWG only)		
	Are there less than 200 items stored? (If \leq than 200 items you are a SUWG, > 200 items you are a LUWG.)		
Training	Are employees trained in uw handling?		
	Are training records on file for 3 years or length of employment, whichever is longer?		
	Does the training record have employee name, training date and information covered?		
Transportation	Does the school district transport uw?		
	If self-transporting, is there a log form, bill of lading(UBOL), or manifest that accompanies each waste shipment?		
	Is the driver trained in emergency spill procedures?		
	Does the driver carry a spill plan and spill kit?		
	Are bills of lading (UBOL), log forms or manifests on file for at least three years from time of shipment?		
	Do UBOLS/ log forms have generator name, address and phone, date of uw delivery to storage facility and type and quantity of uw? (needed for self-transportation, see log form included)		
Additional Records	Are certificates of recycling (except for PCB ballasts and spill materials) on file for at least three years from receipt? (*SUWGs and central accumulation facilities may have instate consolidator retain recycling certificates for them.)		
	Are weekly inspection records of the storage area on file for at least a year? (LUWG only)		

IV. Other important information

- Generator status: Schools that manage their universal waste correctly should be able to maintain a SUWG status. This means that they limit their generation and total accumulation on site to 200 or less universal waste items at a time or in any given month. If a school generates or accumulates more than 200 items, it becomes a LUWG.
- An LUWG or a school that establishes a central accumulation facility where uw is stored from several sites must obtain an State Identification Number by submitting EPA form 8700-12 or State Universal Waste Notification Form to:

Maine Department of Environmental Protection
Bureau of Remediation and Waste Management
Division of Oil and Hazardous Waste Facilities Regulation
17 State House Station
Augusta, Maine 04333-0017
- An LUWG is required to keep a weekly inspection log. An SUWG is not.
- A campus is considered one site, even if it houses two schools, such as a middle and a high school. Non-contiguous school grounds are considered separate sites and each may accumulate up to 200 uw items and retain their SUWG status.
- Incidental breakage of ten or fewer lamps or CRTs at any one time may still be handled as universal waste. Breakage of more than ten lamps or CRTs must be handled as hazardous waste in accordance with Chapter 850, Section 3A(13)(e)(viii). A generator must notify the department if there is breakage of more than ten lamps or CRTs, or there is any breakage of an item containing elemental (liquid) mercury. In this situation the generator should call the following spill number: 1-800-452-4664.
- If a school has a central accumulation area, universal waste must have a date the waste is received at the accumulation area, and must have a tracking system to ensure all wastes are shipped to an approved facility within one year of receipt.
- If a school has a central accumulation area where they bring uw from other campuses, when that site no longer is used for uw storage, the school must conduct closure in accordance with Chapter 851, Section 11 of the Hazardous Waste rules. The intent of this provision is to ensure that the site is free of hazardous waste contamination.
- If a school's uw goes to an **in-state** consolidation facility, the log form may be used as the shipping document instead of a bill of lading or manifest. If the uw is shipped to an out-of-state consolidation facility, the school must use a bill of lading or manifest.
- The Rechargeable Battery Recycling Corporation (RBRC) takes back nickel cadmium, nickel metal hydride, lithium ion and small sealed lead acid rechargeable batteries free of charge. These items are collected at participating retail stores, businesses and governmental agencies. See <http://www.maine.gov/dep/rwm/nicad.htm> for more info on this program and a directory of participating locations. A school may also participate in this free recycling program. Contact RBRC to receive collection boxes through their web site <http://www.rbrc.org/index.html>.

- The Thermostat Recycling Corporation takes back mercury thermostats through participating thermostat wholesalers. See <http://www.maine.gov/dep/rwm/hgthermo.htm> for more information on this program and the participating locations.

V. Resources

For more information on universal waste management or for free on-site training of school custodial staff, please contact:

Ann Pistell
ME DEP
17 State House Station
Augusta, ME 04333

(207) 287-7703 or
ann.e.pistell@maine.gov

LUWG's WEEKLY CHECKLIST FOR UNIVERSAL WASTE STORAGE AREAS

(Record needed if you store over 200 UW items at a time)

DATE: _____ TIME: _____

INSPECTOR: _____

OBSERVATION	YES	NO
ARE ALL UWs IN CONTAINERS / BOXES?		
ARE ANY UW CONTAINERS OPEN?		
DO ALL CONTAINERS HAVE A UNIVERSAL WASTE LABEL?		
DO YOU HAVE ACCESS TO EACH CONTAINER AND CAN YOU READ THE LABEL?		
IS EACH CONTAINER MARKED WITH THE DATE ACCUMULATION BEGAN?		
ARE ANY OF THE ACCUMULATION START DATES OVER 365 DAYS OLD?		
IS THE FULL DATE MARKED ON ALL FULL CONTAINERS?		
IS THE FULL DATE MORE THAN 90 DAYS OLD?		
ARE ALL CONTAINERS SHIPPED OFF WITHIN 365 DAYS OF START DATE OR 90 DAYS FROM FULL DATE, WHICHEVER IS LONGER?		
ARE THE CONTAINERS IN GOOD CONDITION AND INTACT?		
ARE FULL CONTAINERS OR CONTAINERS WITH ANY BREAKAGE SEALED?		
WAS THE STORAGE AREA LOCKED WHEN YOU ARRIVED?		
WHAT IS THE TOTAL NUMBER OF UNIVERSAL WASTE ITEMS IN THE STORAGE AREA?		
PROBLEMS:		
REFERRAL TO:		
FOLLOW UP:		
ALL PROBLEMS CORRECTED ON	(DATE)-	

Reporting Requirements: All spills/ discharges from mercury devices and PCB ballasts must be reported to the DEP immediately. Report any mercury spill, except incidental breakage (10 or fewer) of lamps to the Department's spill hotline at 1-800-452-4664.

MERCURY SPILL CLEAN-UP

CAUTION! Special Precautions for Mercury Spills:

Mercury Containing Instruments: Due to the need for specialized equipment and testing of the contaminated area, it is recommended that a professional environmental contractor be hired for the cleanup of any liquid mercury spill such as breakage of a laboratory instrument or a thermostat.

For the Clean-up of Incidental Lamps or Cathode Ray Tube Breakage: When lamp or CRT breakage occurs, the immediate area should be blocked off. If possible, ventilation of the area should be increased. There are spill kits on the market that can be purchased or you may also put your own kit together. (See page 150 for a list of what should be in your clean up kit.)

- **Avoid skin contact with breakage materials.**
- **Do not use a vacuum when cleaning up.** The use of a vacuum on lamp breakage may cause mercury to be dispersed into the air and to stick to the metal parts in the vacuum motor. This could cause mercury to be discharged every time the vacuum is used. This poses a serious health problem and should be avoided. In addition, the vacuum will have to be decontaminated or discarded due to mercury contamination. Special vacuums are available from environmental contractors that may be used on a mercury spill.
- Always wear safety glasses and disposable rubber gloves when cleaning up breakage. All items except safety glasses (i.e. brooms, shovels, scoops, tape, gloves, sponges, rags, etc.) used to clean up breakage should be considered contaminated and must be disposed of as hazardous waste.
- Place the broken items in an appropriate container i.e. sealable plastic bag and then in a sealable plastic or metal container. Place other clean-up materials (sponge, tape, rags, gloves etc.) in the container;
- Wipe the spill area thoroughly with a wet sponge.
- Seal the container(s), date and label as 'Hazardous Waste Mercury Spill Materials' and store as hazardous waste for disposal.
- Thoroughly wash your hands and face after cleaning up any breakage. Clothing worn during spill cleanup should be washed immediately without other clothes in the washing machine.

Reporting Requirements: All spills/discharges from mercury devices and PCB ballasts must be reported to the DEP immediately. Report any mercury spill to the Department's spill hotline at:

1-800-452-4664.

Universal Waste Notification Form

This form is for schools that are Large UW Generators or have a Central Accumulation Facility serving as a storage site for several campuses. Notification is not required for schools that are Small UW Generators only or do not store UW from other campuses.

Mail to:

Maine Department of Environmental Protection
Bureau of Remediation and Waste Management, Division of OHWFR, 17 State House, Augusta, Maine 04333-0017

Type of Facility:

- ☐ Large Universal Waste Generator (but less than 5000 kg accumulation)
☐ Generator Owned Central Accumulation Facility
☐ Small Service Central Accumulation Facility (less than 200 items)

A. School Name:

B. School UW Storage Location:

Street

City/Town

State

Zip Code

C. School Mailing Address: ___ Same as above.

Street

City/Town

State

Zip Code

D. Contact Person:

_____/_____/_____-_____-_____
Name Job Title Phone

E. Waste Type: (check all that apply): ☐ (CR) Cathode Ray Tube; ☐ (PC) PCB Ballasts;
☐ (BT) Batteries; ☐ (H) Lamps; ☐ (TH) Mercury Thermostats; ☐ (MD) Mercury Devices
(includes thermometers); ☐ (MS) Motor Vehicle Mercury Switches

F. Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further certify that I handle less than 5000kg of universal waste at any one time. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

G. Name and Official Title (Type or Print): _____

Signed: _____

Date: _____

Universal Waste Log Form for School Central Accumulation Facilities or for Schools that want to transport Universal Wastes

Central Accumulation Name: _____ **Maine or EPA ID (if you have a Central Accumulation Area only)** _____

Contact name and phone number: _____ Facility address: _____

School bringing in universal waste	School Address/Phone/contact	Date Received	Waste Type Code ¹ .	# of UW Items ² .	Lamp Size (2',4',8') or type (U tube)	Battery Type ³	CRT/FPD Type
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

¹Waste Type Codes:

Battery = **BT**
 Cathode Ray Tubes = **CR**
 Lamps = **H**
 Mercury-containing Thermostat = **TH**
 PCB Ballast = **PC**
 Mercury Devices = **MD**
 Motor Vehicle Mercury Switch = **MS**
 Flat Panel Display = **FPD**

² # of Universal Waste Items:

Total individual number of items, i.e.: individual lamps, CRTs,.
 thermostats, batteries,etc

CRT/FPD Type: Computer (**Com**) or Television (**TV**)

³Battery Type:

Lithium = Li, Mercuric Oxide = HgO, Nickel Cadmium = NiCd, Nickel Metal Hydride = NiMH, Silver Oxide = AgO
 Not required for batteries collected for RBRC

